

TERRA TECHNOLOGIES

May 27, 2021

Mr. Thomas Fritzel
The Jayhawk Club
1809 Birdie Way
Lawrence, KS 66047

**Re: Mitigation and Restoration
The Jayhawk Club
Lawrence, Douglas County Kansas**

Dear Sirs:

Please find the attached response to comments, Mitigation Figures, revised KSMG Adverse Impacts Worksheets, revised Jurisdictional Impacts Figures, Stream #1 Functionally Impaired Figures, revised KSMG Mitigation Worksheet, revised KSMG Restorations Worksheet, and an example conservation easement for the Jayhawk Club.

As can be seen in the attachments, impacts that occurred at the Jayhawk Club require the generation or purchase of 14,588.97 stream mitigation credits in order to offset the impacts. This total includes impacts to the stream previously identified as ephemeral streams.

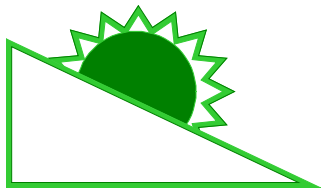
To mitigate for the aforementioned impacts, the Jayhawk Club proposes to create, enhance, and preserve 20.70 acres of riparian buffers along 7,126 lineal feet of stream channel to generate 6,468.15 credits, perform pipe removal/channel restoration along 225 lineal feet of stream channel to generate 1,068.75 credits, restore 2,688 lineal feet of stream channels to their historic condition in order to remove 6,162.10 credits from the total, and purchase 889.97 credits from an approved mitigation bank.

Riparian buffer creation will consist of the removal of non-native species, seeding of native species, the planting of trees and shrubs on 20-foot centers over 51% or more of the riparian area, and the placement of a conservation easement on the riparian area. Riparian buffer enhancement will consist of the removal of non-native species, seeding of native species, the planting of trees and shrubs on 20-foot centers over 10-50% of the riparian area, and the placement of a conservation easement on the riparian area. Riparian buffer preservation will consist of the placement of a conservation easement on riparian buffers that are already fully covered by deep rooted vegetation that require less than ten percent plantings, if any.

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TERRA TECHNOLOGIES

Please do not hesitate to contact us if there are questions about the proposed mitigation and restoration activities.

Sincerely,
TERRA TECHNOLOGIES INC.

A handwritten signature in dark ink, appearing to read "John M. Kahl".

John M. Kahl, P.E.
President/Principal

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RESPONSE TO COMMENTS

Response to Comments

Streams 4 and 6

Streams 4 and 6 were previously thought to be non-jurisdictional ephemeral streams. As such, the impacts to them would not have been considered a violation and therefore they were not accounted for on the adverse impacts worksheet. Further investigation into the streams found them to have flowing water during a period of time that was considered normal conditions according to the Corps Antecedent Precipitation Tool. Therefore, the streams would likely be considered jurisdictional under the current rules. A revised adverse Impacts worksheet that accounts for stream 4 and 6 is attached with this mitigation plan. After reviewing, it was discerned there were 1,197 linear feet of impacts to stream #4 and 502 linear feet of impacts to stream #6. Together these stream impacts total 1,699 linear feet of impacts. This total differs from the total stated by the EPA due the rectification of the errors found at Locations 18, 27, and 29, as outlined below.

Errors

When reviewing the Impacts and mitigation a few errors were found and rectified. These errors are outlined below.

- Location #3: This 20 LF of pipe fill was correctly shown in the figure, but the impacts table had it incorrectly stated as pipe replacement and therefore wasn't accounted for in the impacts total.
- Location #18: This area incorrectly stated 96 LF of general fill and 371 LF of Morphologic Change in both the figure and impacts table. The correct measurements are 97 LF of general fill and 381 LF of Morphologic Change.
- Location 27: This area incorrectly stated 34 LF of general fill and 185 LF of armor fill (correctly stated 138 LF of morphologic change) in the impacts table, but was correctly displayed on the figure. The correct measurements are 39 LF of general fill and 173 LF of armor fill.
- Location 29: This area incorrectly showed 15 LF of pipe fill on the figure and in the impacts table. The correct measurement is 13 LF.
- The formula for the cumulative impact factor for Stream 5 incorrectly stated zero. The formula had been broken and was not multiplying 0.0003 times the LF of impact.

All of these errors have been rectified. A revised copy of the Jurisdictional Impacts Figures and impact tables are included with the mitigation plan.

Credits Required

Stream #1 Existing Condition

Below is an excerpt of the portion of the Kansas Stream Mitigation Guidance (KSMG) which defines what is considered a functionally impaired stream:

“Functionally Impaired Stream means that there is a high loss of system stability and resilience characterized by loss of one or more integrity functions. Recovery is unlikely to occur, unless restoration is undertaken. For purposes of this SMG, a functionally impaired stream reach generally has one or more of the following characteristics:

- The stream has five or greater stream impacts within 0.5 stream miles upstream and downstream of the proposed stream impact or mitigation site, including perched culverts, pipes, impoundments, or other manmade modifications.
- The stream has been channelized, and shows no evidence of self-recovery, or is leveed, impounded or artificially constricted.
- The stream has extensive accelerated sedimentation.
- The stream has little to no riparian buffer of deep-rooted vegetation on one or both stream banks.
- The stream is considered unstable; shows bank failure related to incision and lack of meandering (e.g. both banks failing).”

Per the KSMG, Stream #1 would be considered ‘functionally impaired’ because it has two of the characteristics that define a functional impaired stream. It has five or greater stream impacts within 0.5 stream miles upstream and downstream of the mitigation site and because stream has little to no riparian buffer of deep-rooted vegetation at the violation impact reaches, as well as the majority of the stream reach within the project area. Both of these characteristics were present prior to the violations occurring. See the attached Stream #1 Functionally Impaired Figures for location of stream impacts and lack of deep-rooted vegetation. Please note that while there are some portions of the stream that have deep rooted riparian buffers, the majority of the stream does not. Much of the streams riparian buffer consisted of managed golf course turf grass up to the stream banks with occasional trees. Therefore, the majority of the stream has little to no riparian buffer of deep-rooted vegetation on one or both stream banks.

The credits required to address streams 1, 2, 3, and 5 is 9,658.95 credits. The previous submission stated 9,611.588 credits but this number was incorrect due the errors that were outlined earlier. Please note that per the above discussion on the existing condition, this number was determined using the functionally impaired factor.

The credits required to address stream 4 and 6 is 4,930.02 credits.

Total credits required to address the 5,163 linear feet of impacts is 14,588.97 credits.

Credits Generated

Temporal Lag

Per the KSMG 'Temporal Lag is a factor to compensate for the time required for a mitigation area to fully replace functions lost at the impact site'. A review of the impacts show that the majority of them had riparian buffers that consisted entirely of golf course turf grass or golf course turf grass with a few trees. Therefore, the majority of impact areas had riparian buffers that were dominated by shallow rooted non-native species that provided little to no environmental functions for the chemical, physical, or biological characteristics of the stream. Since the impact areas provided little to no function, the creation or enhancement of riparian corridors from golf course turf grass to native prairie would be an immediate functional lift that would more than replace the functions lost at the impact sites. Beyond the immediate lift that would occur from the planting of native prairie, trees and shrubs will also be planted that over time will only continue to provide even more environmental functions. Since the mitigation will generate an immediate environmental lift that will be completed within 0-5 years of the impacts, using a factor of 0 for temporal lag for the riparian buffer creation and enhancement mitigation areas would be appropriate per the KSMG.

Additionally, the preservation areas are already functional riparian areas that have been in place and are being protected within 0-5 years of the impacts, therefore, a factor of 0 for the temporal lag of the preservation areas would be appropriate per the KSMG.

Per the above discussion, total credits generated would be 7,536.90.

Site Protection

Attached with the mitigation plan is an example of the conservation easement proposed for use on the mitigation areas. This easement is the easement provided by the USACE and is what has been used on the more recent mitigation banks in the Kansas City District.

Stream Restoration Areas

The inset on the previously submitted mitigation figures was incorrect. The figures included with the Mitigation Plan now correctly show the 234 LF of stream that is proposed for restoration at Streat Restoration Area #1.

As shown in the table, 6,162.10 credits are removed by the restoration of stream channels.

Summary

Per the above discussions totals for the project are:

- Required: 14,588.97
- Generated: 7,536.90
- Removed: 6,162.10
- Purchase: 889.97

Next Steps

The proposed mitigation plan includes additional information and details for the proposed stream restoration areas and the discrepancy on Stream Restoration Area 1 has been corrected.

The proposed mitigation plan includes additional information and details about the riparian buffer creation, enhancement, and preservation including typical details, tree planting list, and seed list.

Attached with the mitigation plan is an example of the conservation easement proposed for use on the mitigation areas. This easement is the easement provided by the USACE and is what has been used on the more recent mitigation banks in the Kansas City District.

It is the intent of the applicant to complete all mitigation activities by the end of 2021, though seasonal factors may extend this timeframe.

The cost of purchasing 889.97 mitigation credits at an estimated \$55.00 per credit amounts to \$48,950.00. Onsite mitigation costs will depend on agreements and contracts between the Jayhawk Club and their contractors, surveyors, and easement holder and cannot be determined at this time.

The determination of whether a Nationwide Permit #32 is needed or not is at the sole discretion of the USACE and EPA.

MITIGATION FIGURES



Net Benefit Area 1
Riparian Buffer Creation
153 LF

Stream Restoration Area #1
Restore Stream to Historic Conditions
234 LF

Stone/Rip Rap Generated From Stream
Restoration Areas Is To Be Placed Here
As Needed To Stabilize Slopes.
No Stone/Rip Rap Is To Be Placed Within
The Pond or Other Jurisdictional Feature.

Net Benefit Area 2
Riparian Buffer Creation
606 LF

Stream Restoration Area #3
Restore Stream to Historic Conditions
413 LF

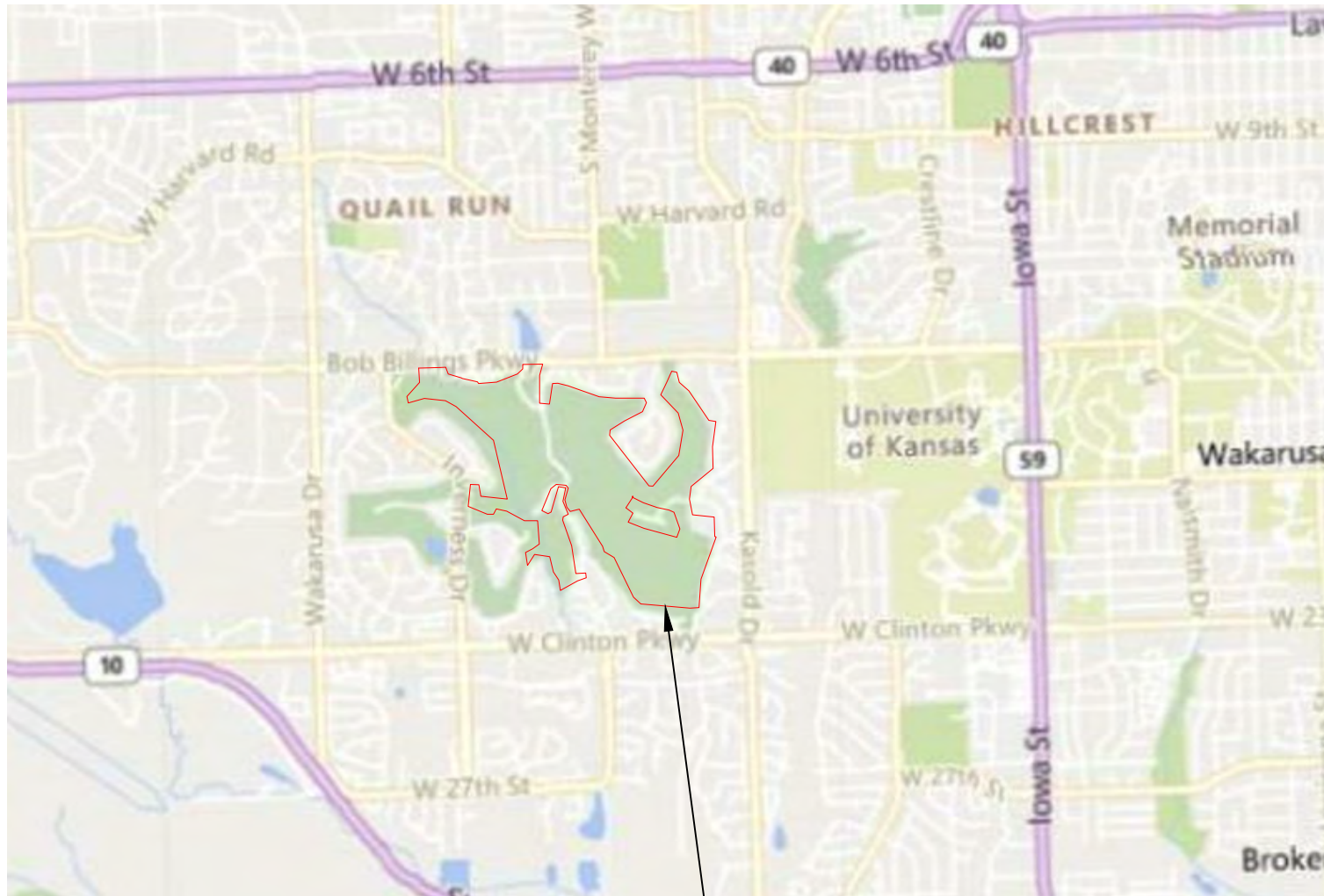
Stream Restoration Area #2
Restore Stream to Historic Conditions
142 LF

Net Benefit Area 3
Riparian Buffer Preservation
843 LF

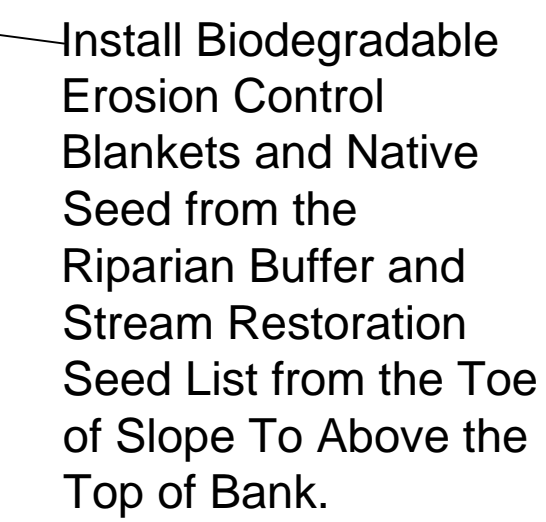
Net Benefit Area 4
Riparian Buffer Preservation
166 LF

NET BENEFITS
Net Benefit Area 1- 153 LF of Stream #1 Riparian Buffer Creation 125' LA side, 175 RA side - 283.05 Credits
Net Benefit Area 2- 606 LF of Stream #1 Riparian Buffer Creation 50' LA side, 75' RA side - 757.5 Credits
Net Benefit Area 3- 843 LF of Stream #1 Riparian Buffer Preservation 50' LA side, 75' RA side - 674.40 Credits
Net Benefit Area 4- 166 LF of Stream #1 Riparian Buffer Preservation 50' LA side - 114.54 Credits
Net Benefit Area 5- 917 LF of Stream #1 Riparian Buffer Creation 50' per side - 1036.21 Credits
Net Benefit Area 6- 690 LF of Stream #1 Riparian Buffer Enhancement 50' RA side and Riparian Buffer Preservation 100' LA side - 614.10 Credits
Net Benefit Area 7- 217 LF of Stream #1 Riparian Buffer Preservation 50' RA side - 149.73 Credits
Net Benefit Area 8- 181 LF of Stream #1 Riparian Buffer Preservation 50' per side - 139.37 Credits
Net Benefit Area 9- 93 LF of Stream #7 Riparian Buffer Preservation 75' per side - 44.64 Credits
Net Benefit Area 10- 289 LF of Stream #7 Riparian Buffer Preservation 50' per side - 121.38 Credits
Net Benefit Area 11- 421 LF of Stream #5 Riparian Buffer Preservation 50' RA side - 206.29 Credits
Net Benefit Area 12- 478 LF of Stream #6 Riparian Buffer Creation 75' RA side - 329.82 Credits
Net Benefit Area 13- 213 LF of Stream #6 Riparian Buffer Preservation 50' LA side, 100' RA side - 134.19 Credits
Net Benefit Area 14- 86 LF of Stream #5 Riparian Buffer Preservation 50' RA side - 42.14 Credits
Net Benefit Area 15- 298 LF of Stream #5 Riparian Buffer Preservation 50' LA side, 150' RA side - 196.68 Credits
Net Benefit Area 16- 262 LF of Stream #5 Riparian Buffer Creation 50' per side - 243.66 Credits
Net Benefit Area 17- 589 LF of Stream #5 Riparian Buffer Creation 50' per side - 547.77 Credits
Net Benefit Area 18- 280 LF of Stream #4 Riparian Buffer Creation 50' LA side, 75' RA side - 294.00 Credits
Net Benefit Area 19- 344 LF of Stream #4 Riparian Buffer Enhancement 50' LA side and Riparian Buffer Preservation 75' RA side - 227.04 Credits
Net Benefit Area 20- 122 LF of Pipe Removal / Channel Restoration - 579.5 Credits
Net Benefit Area 21- 103 LF of Pipe Removal / Channel Restoration - 489.25 Credits
Net Benefit Area 22- 636 LF of Stream #5 Riparian Buffer Preservation 50' LA side - 311.64 Credits
Total Mitigation Credits = 7,536.9

Stream Restoration Areas (SRA)
SRA #1- 234 LF of Stream #1 restored to historic conditions (Armor fill Removal).
432.95 Impact Credits removed from total
SRA #2- 142 LF of Stream #1 restored to historic conditions (Armor fill Removal)
258.81 Impact Credits removed from total
SRA #3- 413 LF of Stream #2 restored to historic conditions (Armor fill Removal)
695.45 Impact Credits removed from total
SRA #4- 273 LF of Stream #1 Restored to historic conditions (Armor fill Removal)
508.30 Impact Credits removed from total
SRA #5- 88 LF of Stream #1 restored to historic conditions (Armor fill Removal)
158.96 Impact Credits removed from total
SRA #6- 402 LF of Stream #5 restored to historic conditions (362 LF Morphologic Change & 40 LF General Fill)
1,108.91 Impact Credits removed from total
SRA #7- 257 LF of Stream #4 restored to historic path (Morphologic Change)
677.73 Impact Credits removed from total
SRA #8- 111 LF of Stream #4 restored to historic path (107 LF Morphologic Change & 4 LF General Fill)
291.60 Impact Credits removed from total
SRA #9- 173 LF of Stream #4 restored to historic conditions (Armor Fill Removal)
278.86 Impact Credits removed from total
SRA #10- 478 LF of Stream #6 restored to historic Path (381 LF Morphologic Change & 97 LF General Fill)
1,367.05 Impact Credits removed from total
SRA #11- 56 LF of Stream #5 restored to historic Path (Pipe Fill)
183.50 Impact Credits removed from total
SRA #12- 61 LF of Stream #5 restored to historic Path (Pipe Fill)
199.98 Impact Credits removed from total
Total Impact Credits Restored = 6,162.10



N.T.S.



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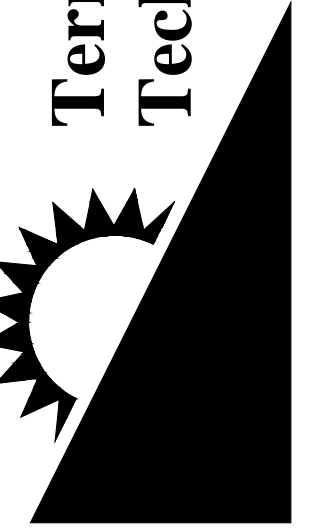


FIGURE 5

TYPICAL DETAILS					
			PROJECT		
			THE JAYHAWK CLUB		
			CLIENT		
			MR. THOMAS FRITZEL		
REVISIONS					
DATE		DESCRIPTION			
DATE		3/25/2021			
CHECKED JMK	BY	DRAWN BY	DTD		
SHEET NO.					
		TD			
JOB NO.		XXX			

Riparian Buffer Restoration Tree and Shrub Plantings		
Scientific Name	Common Name	Tree or Shrub
<i>Acer saccharinum</i>	Silver Maple	Tree
<i>Asimina triloba</i>	Common Paw Paw	Tree
<i>Celtis laevigata</i>	Sugar-Berry	Tree
<i>Celtis occidentalis</i>	Common Hackberry	Tree
<i>Diospyros virginiana</i>	Common Persimmon	Tree
<i>Fraxinus pennsylvanica</i>	Green Ash	Tree
<i>Platanus occidentalis</i>	American Sycamore	Tree
<i>Quercus alba</i>	Northern White Oak	Tree
<i>Quercus bicolor</i>	Swamp White Oak	Tree
<i>Quercus macrocarpa</i>	Burr Oak	Tree
<i>Quercus muehlenbergii</i>	Chinkapin Oak	Tree
<i>Quercus palustris</i>	Pin Oak	Tree
<i>Quercus rubra</i>	Northern Red Oak	Tree
<i>Salix amygdaloides</i>	Peach-Leaf Willow	Tree
<i>Salix nigra</i>	Black Willow	Tree
<i>Ulmus americana</i>	American Elm	Tree
<i>Cephalanthus occidentalis</i>	Common Buttonbush	Shrub
<i>Cercis canadensis</i>	Redbud	Shrub
<i>Cornus amomum</i>	Silky Dogwood	Shrub
<i>Cornus drummondii</i>	Rough-Leaf Dogwood	Shrub
<i>Cornus florida</i>	Flowering Dogwood	Shrub
<i>Crataegus mollis</i>	Downy Hawthorn	Shrub
<i>Sambucus nigra</i>	Black Elder	Shrub
<i>Symphoricarpos orbiculatus</i>	Coral-Berry	Shrub
<i>Viburnum dentatum</i>	Southern Arrow-Wood	Shrub
<i>Viburnum lentago</i>	Nanny Berry	Shrub
· Select no less than 8 species of trees and 8 species of shrubs to comprise the mitigation plantings. · Contractor shall make quantity and species selections based on site conditions, as approved by the owner's representative.		

Riparian Buffer and Stream Restoration Seed List		
Common Name	Scientific Name	lbs/acre
BIG BLUESTEM	<i>Andropogon gerardii</i>	5
COMMON MILKWEED	<i>Asclepias syriaca</i>	0.25
BUTTERFLY MILKWEED	<i>Asclepias tuberosa</i>	0.125
WHITE WILD INDIGO	<i>Baptisia alba</i>	0.125
SIDEOATS GRAMA	<i>Bouteloua curtipendula</i>	5
BUFFALO GRASS	<i>Bouteloua dactyloides</i>	2
SHOWY PARTRIDGE PEA	<i>Chamaecrista fasciculata</i>	1
LANCELEAF COREOPSIS	<i>Coreopsis lanceolata</i>	0.5
PURPLE PRAIRIE CLOVER	<i>Dalea purpurea</i>	1
PRAIRIE BUNDLE FLOWER	<i>Desmanthus illinoensis</i>	0.5
CANADA WILD RYE	<i>Elymus canadensis</i>	4
VIRGINIA WILD RYE	<i>Elymus virginicus</i>	4
Maxm SUNFLOWER	<i>Helianthus maximiliani</i>	0.5
SMOOTH OXEYE SUN	<i>Heliopsis helianthoides</i>	0.25
SWITCHGRASS	<i>Panicum virgatum</i>	2
FOXGLOVE BEARDTONGUE	<i>Penstemon digitalis</i>	0.25
UPRIGHT PR CONEFLOWER	<i>Ratibida columnifera</i>	2
BLACK-EYED SUSAN	<i>Rudbeckia hirta</i>	1
COMPASS PLANT	<i>Silphium laciniatum</i>	0.25
INDIAN GRASS	<i>Sorghastrum nutans</i>	2
REGREEN STERILE WHEAT	<i>Triticum spp.</i>	20
POUNDS		51.75

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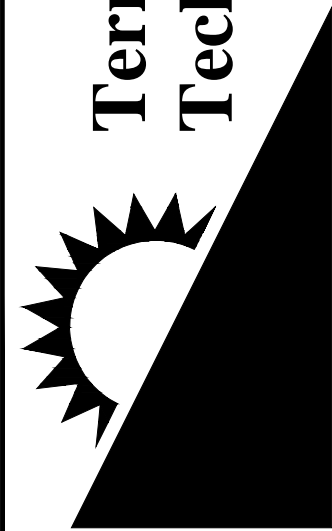


FIGURE 6

SHEET TITLE

PLANTING LISTS

PROJECT

THE JAYHAWK CLUB

CLIENT

MR. THOMAS FRITZEL

REVISIONS

DATE	DESCRIPTION

DATE

3/25/2021

CHECKED BY

JMK

DRAWN BY

DTD

SHEET NO.

PL

JOB NO.

XXX



**Terra
Technologies**

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FIGURE 7

PERFORMANCE STANDARDS

THE JAYHAWK CLUB

MR. THOMAS FRITZEL

REVISIONS	
DATE	DESCRIPTION

DATE 9/15/2021
CHECKED BY JMK DRAWN BY DTD
SHEET NO.

PS

JOB NO. XXX

KSMG ADVERSE IMPACTS WORKSHEET

Date: 2-Apr-21

Adverse Impact Factors for Riverine Systems Worksheet										
Factor	Stream #1	Stream #1	Stream #1	Stream #1	Stream #1	Stream #2	Stream #2	Stream #3	Stream #3	Stream #3
Stream Type Impacted	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.6
Stream Status	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Exisiting Condition Value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Formula total	0.08	0.08	0.08	0.08	0.08	0.06	0.06	0.06	0.06	0.06
Duration	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Activity	2.5	2.2	1.5	0.5	0.5	2.2	0.5	2.5	2.2	1.5
Cumulative impact	0.0036	0.0123	0.036	0.1128	0.1083	0.006	0.1239	0.2775	0.0834	0.0915
Sum of Factors = M	3.7836	3.4923	2.816	1.8928	1.8883	3.266	1.6839	3.8375	3.3434	2.6515
Linear Feet of Stream Impacted = LF	12	41	120	376	361	20	413	925	278	305
M x LF	45.40	143.18	337.92	711.69	681.68	65.32	695.45	3549.69	929.47	808.71

Adverse Impact Factors for Riverine Systems Worksheet										
Factor	Stream #5	Stream #5	Stream #5	Stream #5	Stream #4	Stream #4	Stream #4	Stream #4	Stream #6	Stream #6
Stream Type Impacted	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Stream Status	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Exisiting Condition Value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Formula total	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Duration	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Activity	2.5	2.2	1.5	0.5	2.5	2.2	1.5	0.5	2.5	2.2
Cumulative impact	0.012	0.0432	0.1086	0.0201	0.1212	0.0135	0.1725	0.0519	0.0291	0.0072
Sum of Factors = M	3.572	3.3032	2.6686	1.5801	3.6812	3.2735	2.7325	1.6119	3.5891	3.2672
Linear Feet of Stream Impacted = LF	40	144	362	67	404	45	575	173	97	24
M x LF	142.88	475.66	966.03	105.87	1487.20	147.31	1571.19	278.86	348.14	78.41

[illegible]

Total Mitigation Credits Required =

14588.97

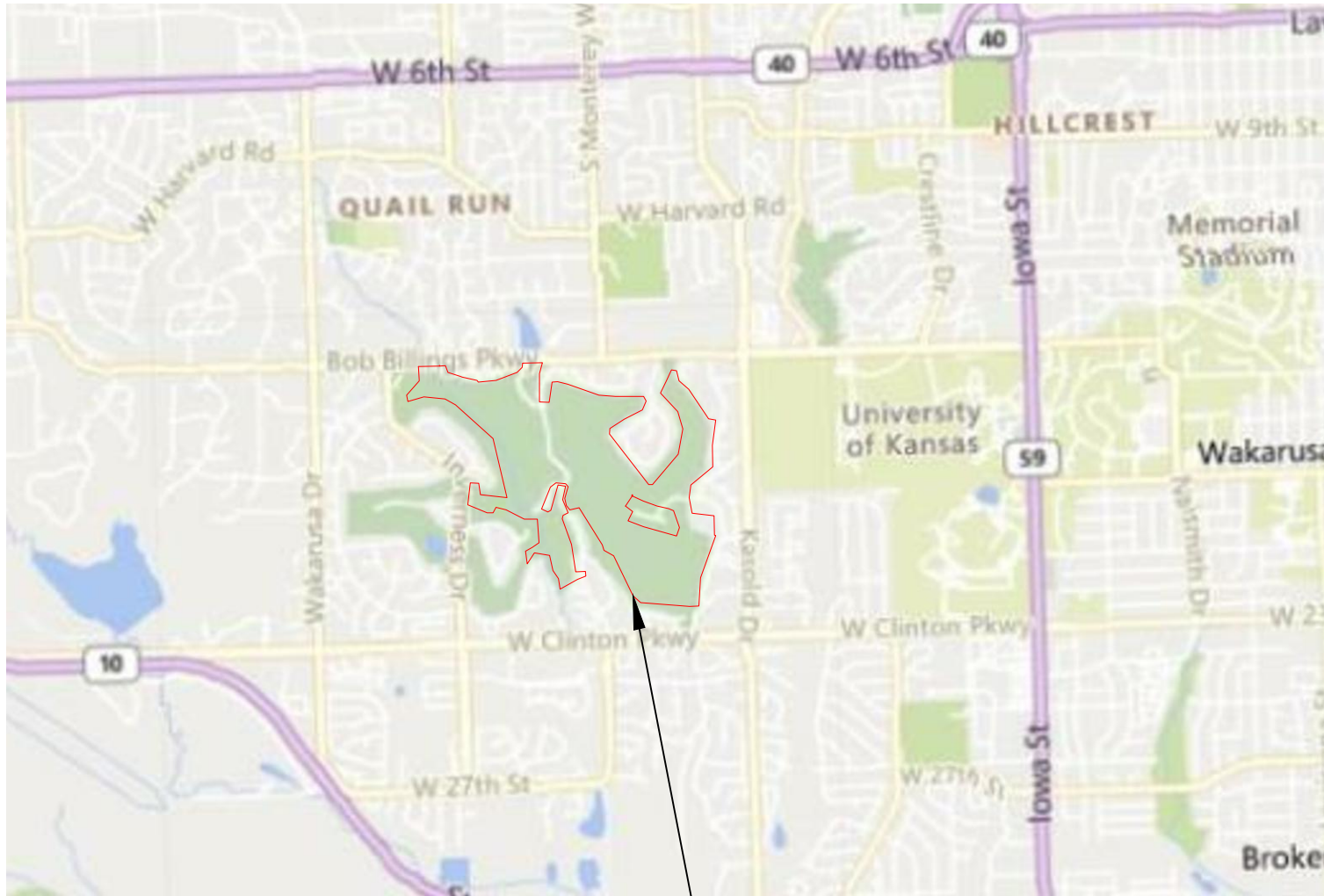
Adverse Impact Factors Table										
Stream Type	Ephemeral/Intermittent w/o Pools 0.4			Intermittent w/ Pools 0.6			Perennial 0.8			
Stream Status	Tertiary 0.1			Secondary 0.4			Primary 0.8			
Existing Condition	Functionally Impaired Stream Type x 0.1			Moderately Functional Stream Type x 0.8			Highly Functional Stream Type x 5.0			
Duration	Temporary (<1 yr.) 0.05			Short Term (1-2 yr.) 0.1			Permanent (>2 yr.) 0.3			
Impact Activity	Shade/ Clear 0.05	Utility Crossing 0.15	Below Grade Culvert 0.3	Temporary Inundation Zone 0.4	Armor 0.5	Diversion/ Weir 0.75	Morphologic 1.5	Impound 2	Pipe 2.2	Fill 2.5
Cumulative Impact	0.0003 x total linear feet of stream impacted per reach									

JURISDICTIONAL IMPACTS FIGURES



JURISDICTIONAL IMPACTS ASSESSMENT										
Location	General Fill		Pipe Fill		Morphological Change		Armor Fill		Bank Armoring	
	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)
1							234	10		
2										
3			20							
4							413	5		
5			23				142	10		
6	925	3	278		305	3				
7										
8	12	10	18		120	10				
9										
10										
11										
12									273	10
13									88	10
14										
15							10	6		
16							33	6		
17			24							
18	97	6			381	6				
19			56							
20										
21			61							
22	361	3			330	3				
23	4	3			107	3				
24			32							
25										
26										
27	39	3			138	3	173	3		
28										
29			13							
30			27				24	6		
31	40	6			362	6				
32										
Total Streams:	1478		552		1743		1029		361	
Total Stream Impacts:	5163									

* No activity occurs within the stream so no length given



Site Location

T13S-R19E-S3 & S4

Lawrence, Douglas County, Kansas

274.07 Acres

Lat. 38.95287

Long. -95.29203

GRAPHIC SCALE

80

0

40

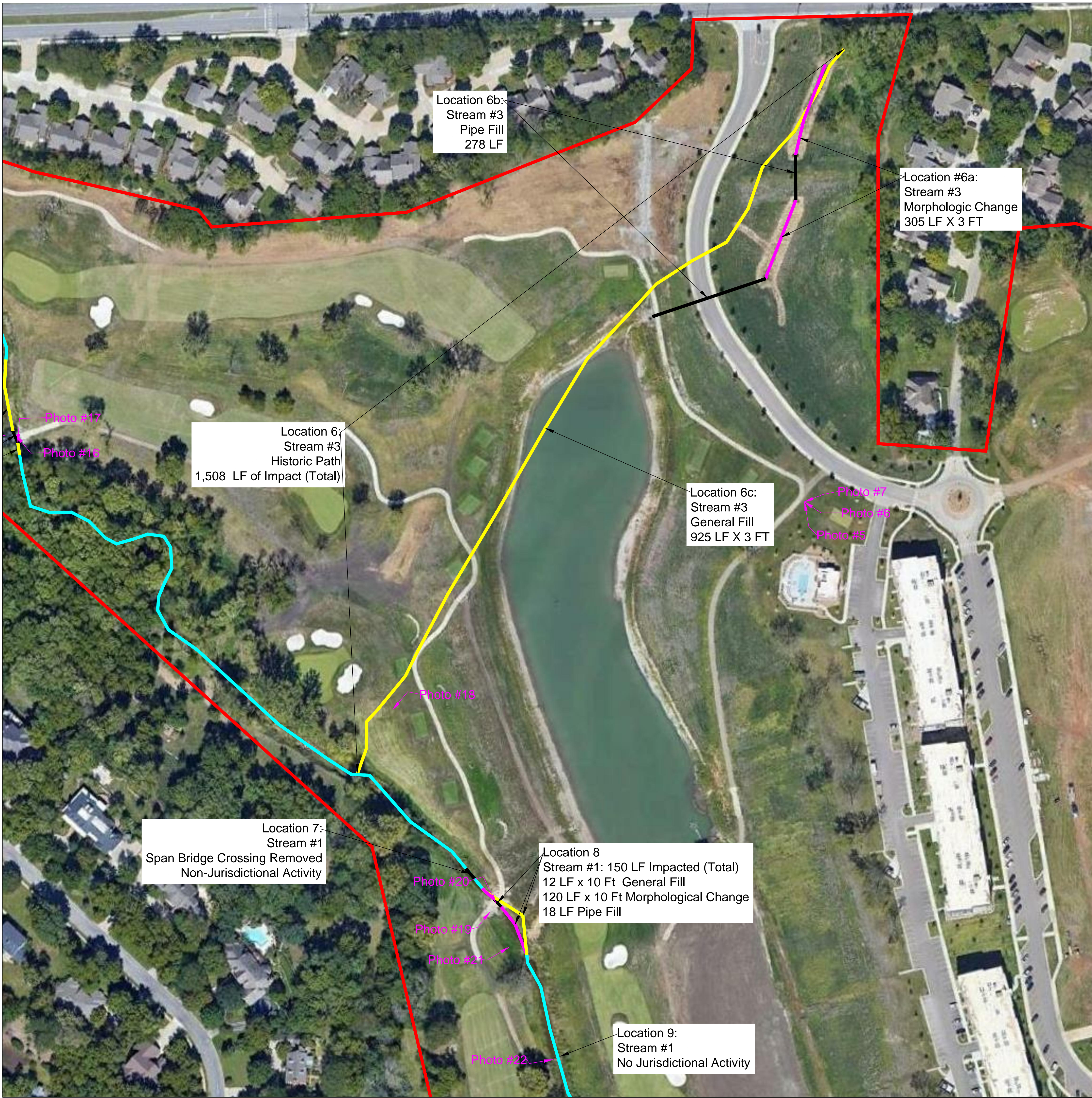
80

160

320

(IN FEET)

1 inch = 80 ft.

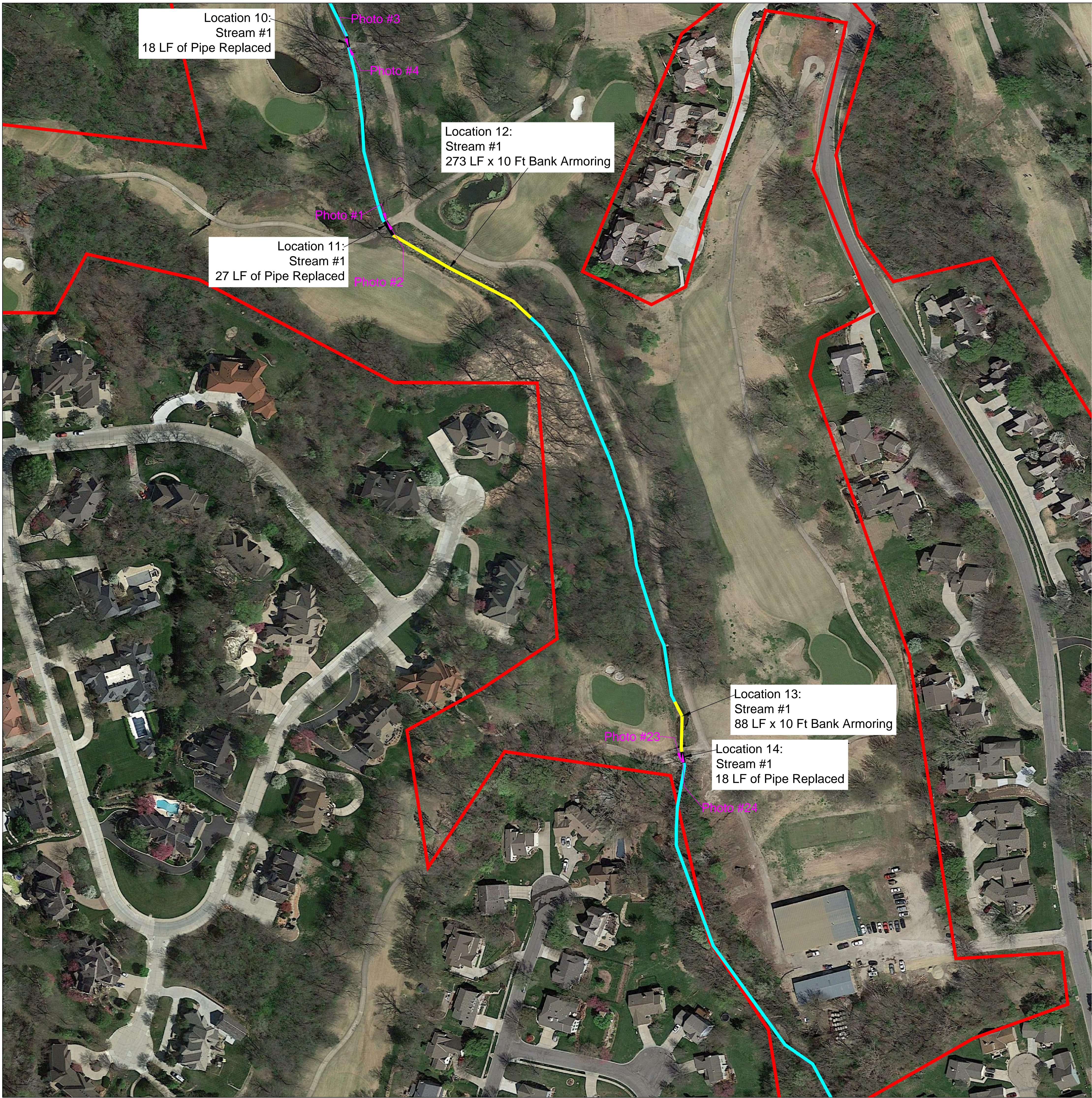


JURISDICTIONAL IMPACTS ASSESSMENT

Location	General Fill		Pipe Fill		Morphological Change		Armor Fill		Bank Armoring		Non Jurisdictional Activity/Mitigation Not Required
	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	
1							234	10			20 Ft Pipe Replacement
2											
3			20								
4							413	5			
5			23				142	10			
6	925	3	278		305	3					Span Bridge Removal
7											
8	12	10	18		120	10					
9											
10											18 FT Pipe Replacement
11											27 FT Pipe Replacement
12									273	10	
13									88	10	
14											18 FT Pipe Replacement
15							10	6			Pipe Not Replaced
16							33	6			40 Ft Pipe Replacement
17			24								45 Ft Pipe Replacement
18	97	6			381	6					
19			56								122 FT Pipe Replacement
20											
21			61								103 Ft Pipe Replacement
22	361	3			330	3					
23	4	3			107	3					
24			32								
25											No Pipe Replacement
26											
27	39	3			138	3	173	3			
28											13 Ft Pipe Replacement
29			13								
30			27				24	6			
31	40	6			362	6					
32											No Pipe Replacement
Total Streams:	1478		552		1743		1029		361		
Total Stream Impacts:	5163										

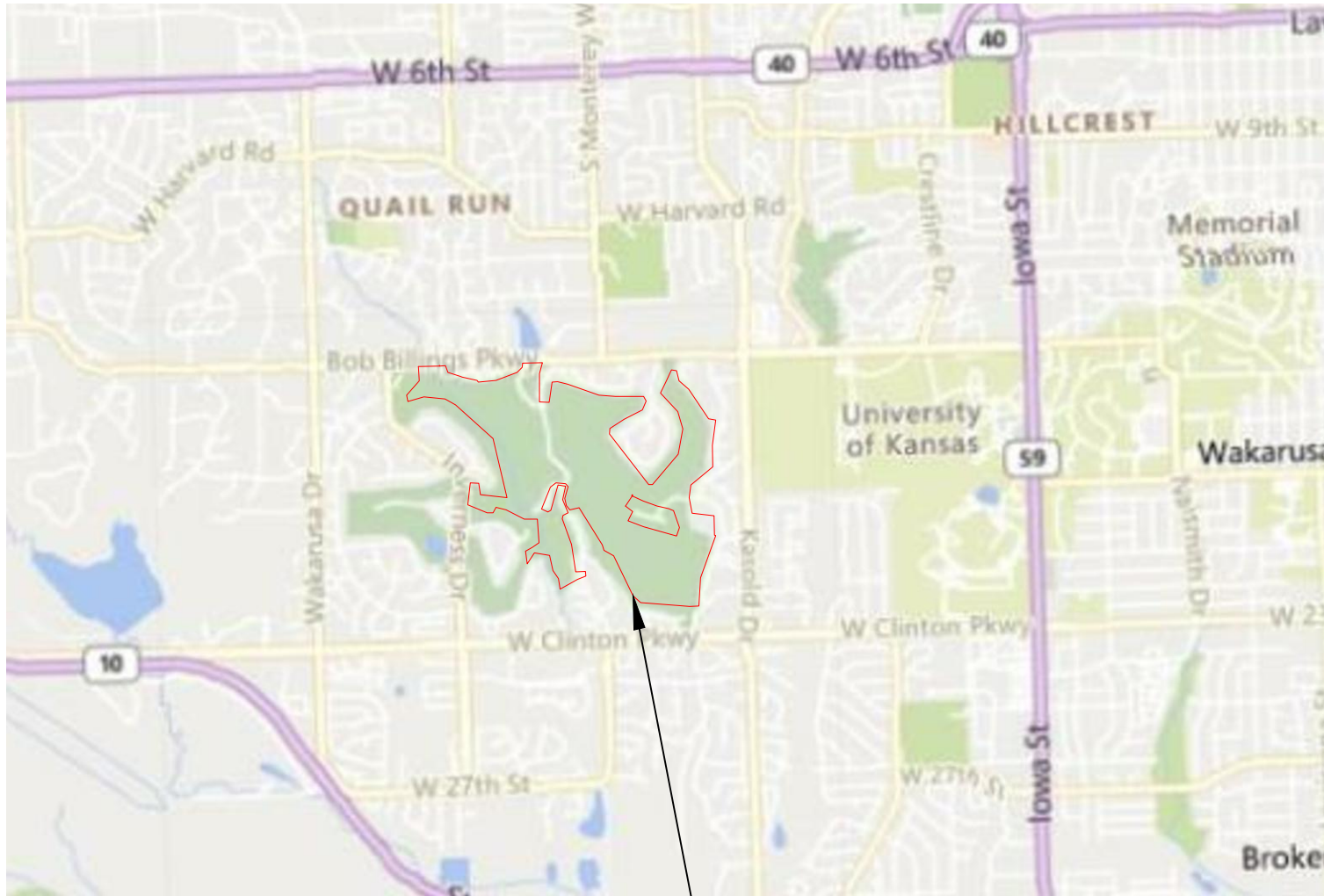
* No activity occurs within the stream so no length given

Site Location
T13S-R19E-S3 & S4
Lawrence, Douglas County, Kansas
274.07 Acres
Lat. 38.95287
Long. -95.29203
GRAPHIC SCALE
80 0 40 80 160 320
(IN FEET)
1 inch = 80 ft.



JURISDICTIONAL IMPACTS ASSESSMENT											
Location	General Fill		Pipe Fill		Morphological Change		Armor Fill		Bank Armoring		Non Jurisdictional Activity/Mitigation Not Required
	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	
1							234	10			
2											20 Ft Pipe Replacement
3			20								
4							413	5			
5			23				142	10			
6	925	3	278		305	3					
7											Span Bridge Removal
8	12	10	18		120	10					
9											*
10											18 FT Pipe Replacement
11											27 FT Pipe Replacement
12									273	10	
13									88	10	
14											18 FT Pipe Replacement
15							10	6			Pipe Not Replaced
16							33	6			40 Ft Pipe Replacement
17			24								45 Ft Pipe Replacement
18	97	6			381	6					
19			56								122 FT Pipe Replacement
20											*
21			61								103 Ft Pipe Replacement
22	361	3			330	3					
23	4	3			107	3					
24			32								
25											No Pipe Replacement
26											*
27	39	3			138	3	173	3			
28											13 Ft Pipe Replacement
29			13								
30			27				24	6			
31	40	6			362	6					
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Total Streams:	1478		552		1743		1029		361		
Total Stream Impacts:		5163									
* No activity occurs within the stream so no length given											

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Site Location

T13S-R19E-S3 & S4

Lawrence, Douglas County, Kansas

274.07 Acres

Lat. 38.95287

Long. -95.29203

GRAPHIC SCALE

800

0

40

80

160

320

(IN FEET)

1 inch = 80 ft.

6240 W. 135th St., Ste. 100

Overland Park, Kansas

66223

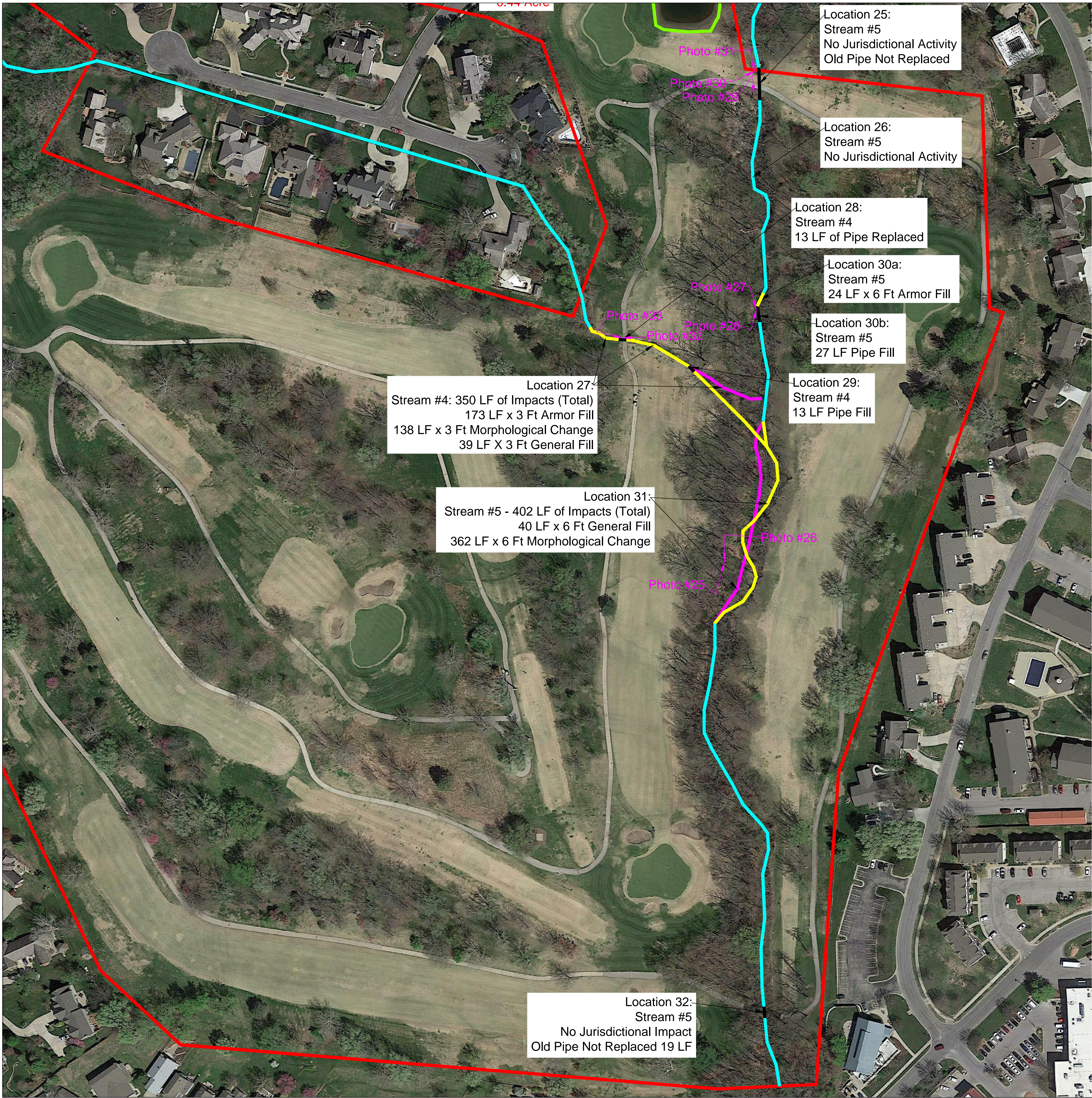
Tel 913.385.9560 Fax 913.385.5295

Terra

Technologies

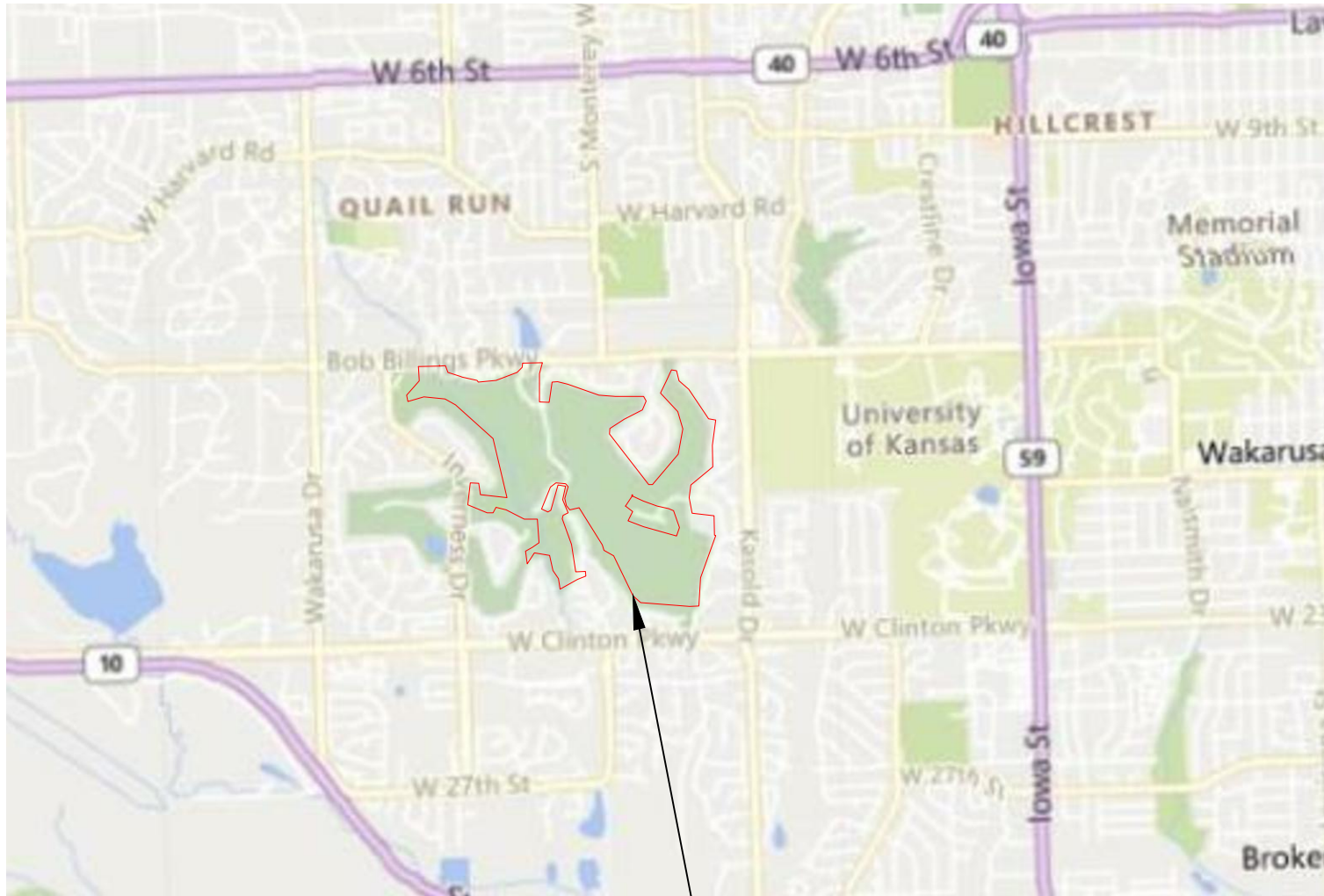
FIGURE 4e

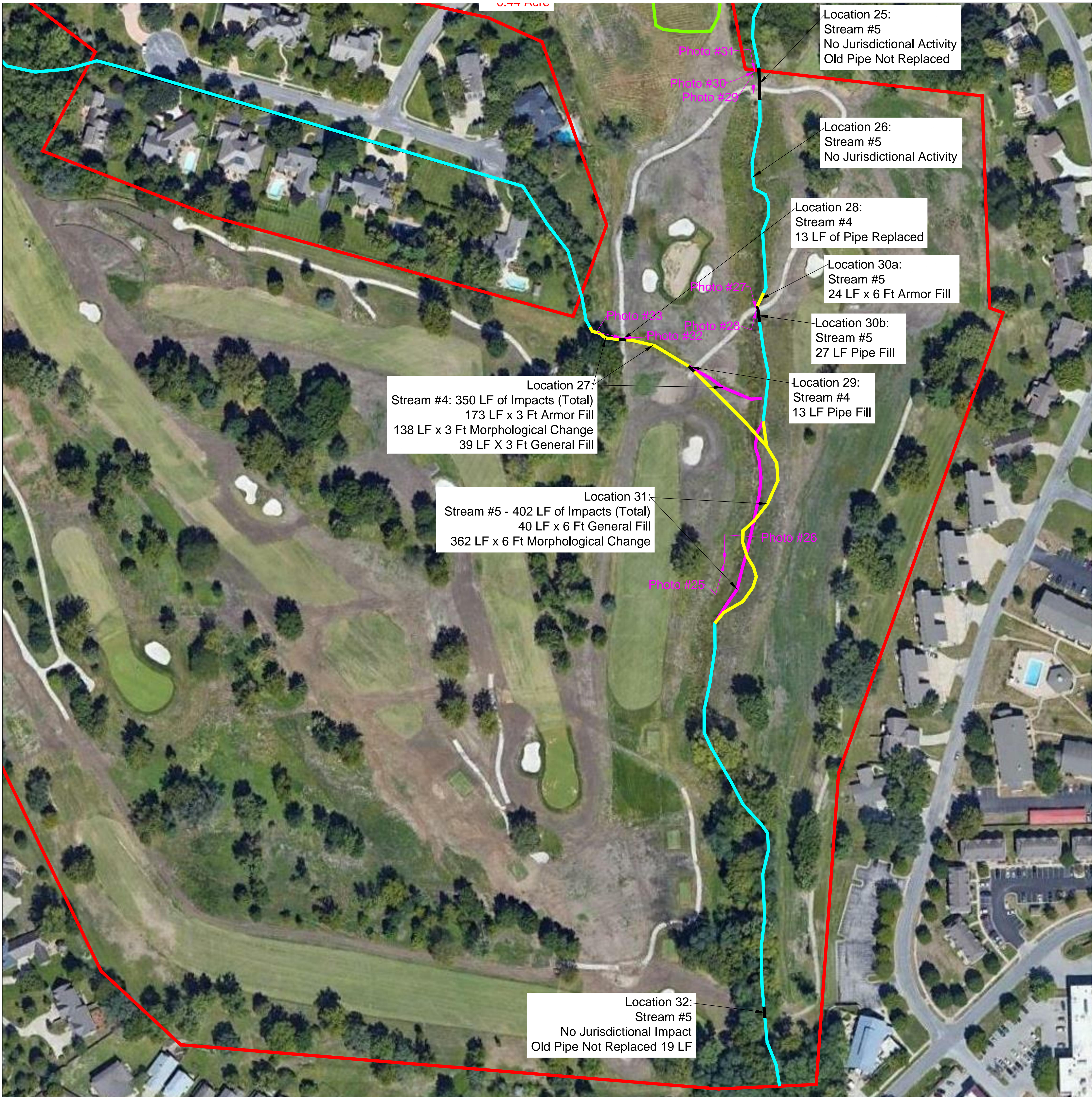
SHEET TITLE		JURISDICTIONAL IMPACTS ASSESSMENT		
PROJECT	CLIENT	REVISIONS		
		DATE	DESCRIPTION	
THE JAYHAWK CLUB	MR. THOMAS FRITZEL			
DATE		3/24/21		
CHECKED BY		DRAWN BY		
SHEET NO.		DTD	SNS	
JIA				
JOB NO.		XXX		



JURISDICTIONAL IMPACTS ASSESSMENT										
Location	General Fill		Pipe Fill		Morphological Change		Armor Fill		Bank Armoring	
	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)
1							234	10		
2										
3			20				413	5		
4			23				142	10		
5										
6	925	3	278		305	3				
7										
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14										
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16							33	6		
17			24							
18					381	6				
19	97	6	56							
20										
21			61							
22	361	3			330	3				
23	4	3			107	3				
24			32							
25										
26										
27	39	3			138	3	173	3		
28										
29			13							
30	40	6	27		362	6	24	6		
31										
32										
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Total Stream Impacts:	5163									

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JURISDICTIONAL IMPACTS ASSESSMENT

Location	General Fill		Pipe Fill		Morphological Change		Armor Fill		Bank Armoring		Non Jurisdictional Activity/Mitigation Not Required
	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	Length (Ft)	Width (Ft)	
1							234	10			20 Ft Pipe Replacement
2											
3			20								
4							413	5			
5			23				142	10			
6	925	3	278		305	3					
7											Span Bridge Removal
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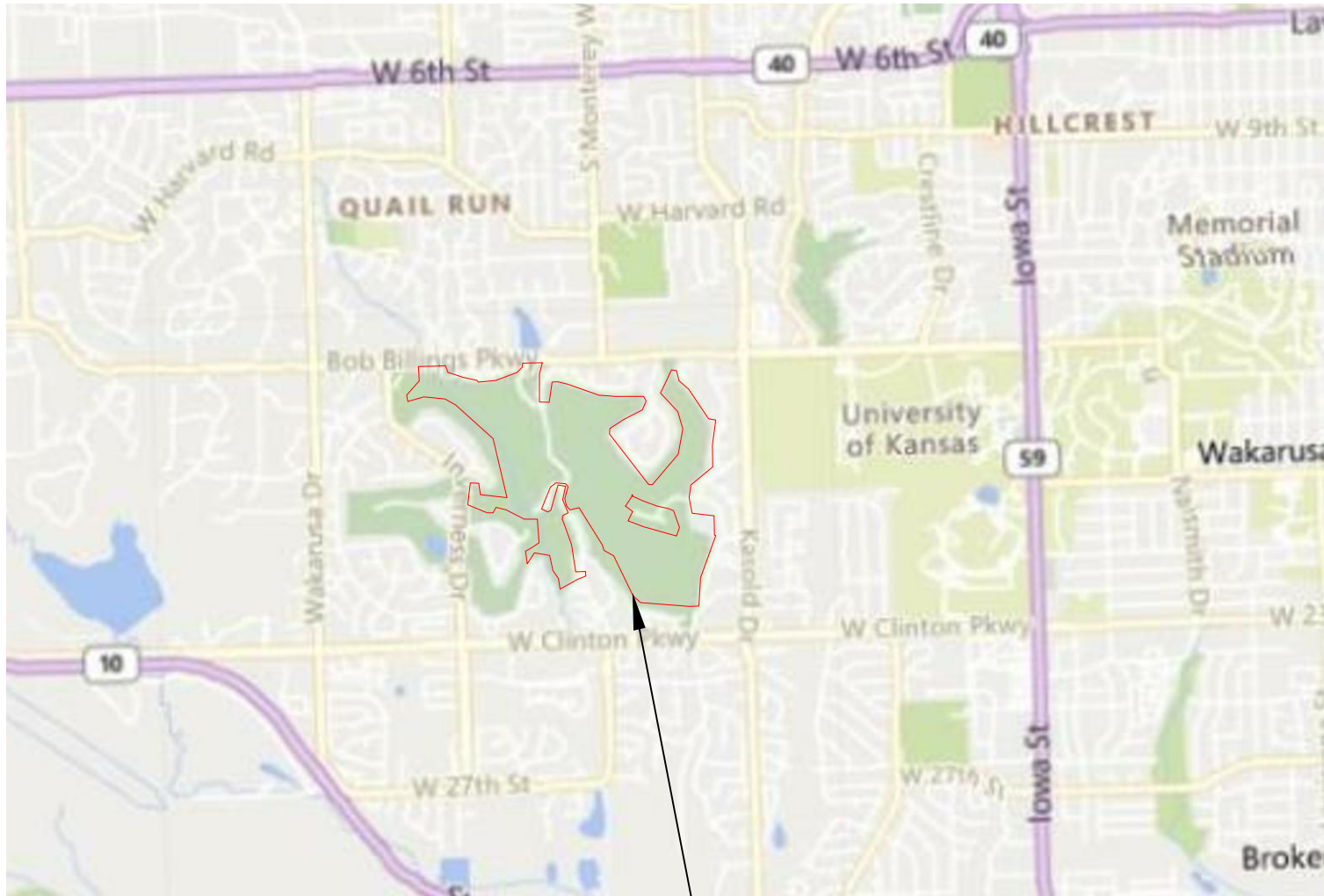
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Site Location
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Lawrence, Douglas County, Kansas
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GRAPHIC SCALE
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1 inch = 80 ft.



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Location	General Fill		Pipe Fill		Morphological Change		Armor Fill		Bank Armoring		Non Jurisdictional Activity/Mitigation Not Required
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1							234	10			20 Ft Pipe Replacement
2											
3			20				413	5			
4			23				142	10			
5	925	3	278		305	3					Span Bridge Removal
6											
7											+
8	12	10	18		120	10					
9											18 FT Pipe Replacement 27 FT Pipe Replacement
10											
11									273	10	18 FT Pipe Replacement
12									88	10	
13											Pipe Not Replaced 40 Ft Pipe Replacement 45 Ft Pipe Replacement
14											
15							10	6			122 FT Pipe Replacement +
16							33	6			
17			24		381	6					103 Ft Pipe Replacement
18	97	6									
19			56								+
20											
21			61								No Pipe Replacement +
22	361	3			330	3					
23	4	3			107	3					No Pipe Replacement +
24			32								
25											No Pipe Replacement +
26											
27	39	3			138	3	173	3			13 Ft Pipe Replacement
28											
29			13								No Pipe Replacement
30			27				24	6			
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Total Streams:	1478		552		1743		1029		361		
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T13S-R19E-S3 & S4
Lawrence, Douglas County, Kansas
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(IN FEET)
1 inch = 80 ft.

KSMG MITIGATION WORKSHEETS

Project Name: Jahhawk Club Riparian Mitigation

Date: 27-May-21

Riparian Buffer Creation, Enhancement, Restoration and Preservation Worksheet

Factors	NB1 Rip Creat	NB2 Rip Creat	NB3 Rip Pres	NB4 Rip Pres	NB5 Rip Creat	NB6 Rip E P	NB7 Rip Pres	NB8 Rip Pres	NB 9 Rip Pres	NB10 Rip Pres
Stream Type	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.05	0.05
Priority Status	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Net Benefit (stream side A) LA	0.36	0.16	0.04	0.04	0.16	0.08	0	0.04	0.06	0.13
Net Benefit (stream side B) RA	0.44	0.24	0.06	0	0.16	0.08	0.04	0.04	0.06	0.04
Supplemental Buffer Credit	0.4	0.2	0.05	0	0.16	0.08	0	0.04	0.06	0.04
Control / Site Protection	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Mit. Construction Timing (side A)	0	0	0	0	0	0	0	0	0	0
Mit. Construction Timing (side B)	0	0	0	0	0	0	0	0	0	0
Temporal Lag (years)	0	0	0	0	0	0	0	0	0	0
Sum Factors (M) =	1.85	1.25	0.8	0.69	1.13	0.89	0.69	0.77	0.48	0.42
Linear Feet of Stream buffer (LF)	153	606	843	166	917	690	217	181	93	289
Credits (C) = M x LF	283.05	757.5	674.4	114.54	1036.21	614.1	149.73	139.37	44.64	121.38
Site Factor (SF) pg.19	1	1	1	1	1	1	1	1	1	1
Total Credits Generated C x (SF)	283.05	757.5	674.4	114.54	1036.21	614.1	149.73	139.37	44.64	121.38

Table 1

Buffer width on one side of the stream	Percent Buffer that needs planting		
	Creation	Enhancement	Preservation
300'	0.56	0.28	0.14
275'	0.54	0.27	0.14
250'	0.52	0.26	0.13
225'	0.50	0.25	0.13
200'	0.48	0.24	0.12
175'	0.44	0.22	0.11
150'	0.40	0.20	0.10
125'	0.36	0.18	0.09
100'	0.32	0.16	0.08
75'	0.24	0.12	0.06
50' (MBW)	0.16	0.08	0.04

Riparian Buffer Creation, Enhancement, Restoration and Preservation Worksheet

Factors	NB11 Rip Pres	NB12 Rip Creat	NB13 Rip Pres	NB14 Rip Pres	NB15 Rip Pres	NB16 Rip Creat	NB17 Rip Creat	NB18 Rip Creat	NB 19 Rip Enh	NB22 Rip Pres
Stream Type	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Priority Status	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Net Benefit (stream side A) LA	0	0	0.04	0	0.04	0.16	0.16	0.16	0.08	0.04
Net Benefit (stream side B) RA	0.04	0.24	0.08	0.04	0.1	0.16	0.16	0.24	0.06	0
Supplemental Buffer Credit	0	0	0.06	0	0.07	0.16	0.16	0.2	0.07	0
Control / Site Protection	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Mit. Construction Timing (side A)	0	0	0	0	0	0	0	0	0	0
Mit. Construction Timing (side B)	0	0	0	0	0	0	0	0	0	0
Temporal Lag (years)	0	0	0	0	0	0	0	0	0	0
Sum Factors (M) =	0.49	0.69	0.63	0.49	0.66	0.93	0.93	1.05	0.66	0.49
Linear Feet of Stream buffer (LF)	421	478	213	86	298	262	589	280	344	636
Credits (C) = M x LF	206.29	329.82	134.19	42.14	196.68	243.66	547.77	294	227.04	311.64
Site Factor (SF) pg.19	1	1	1	1	1	1	1	1	1	1
Total Credits Generated C x (SF)	206.29	329.82	134.19	42.14	196.68	243.66	547.77	294	227.04	311.64

Total Riparian Restoration Credits generated =

6468.15

Supplemental Buffer Credit	Ephemeral/ Intermittent w/o Pools			Intermittent w/ Permanent Pools		Perennial	
Control / Site Protection	0.05			0.2		0.4	
Priority Status	Tertiary 0.05		Secondary 0.2		Primary 0.4		
Net Benefit (for each side of stream)	Riparian Creation, Enhancement, Restoration, and Preservation Factors (select values from Table 1) (MBW = Minimum Buffer Width = 50' + 2' / 1 % slope)						
Supplemental Buffer Credit	Condition: MBW restored or protected on both streambanks To calculate:(Net Benefit Stream Side A + Net Benefit Stream Side B) / 2						
Control / Site Protection	Corps approved site protection without third party grantee 0.05			Corps approved site protection recorded with third party grantee or transfer of title to a conservancy 0.2			
Mitigation Construction Timing (each side of stream)	Schedule 1 0.15		Schedule 2 0.05		Schedule 3 0		
Temporal Lag (Years)	Over 20 -0.3	10 to 20 -0.2	5 to 10 -0.1	0 to 5 0			

Project Name: Jayhawk Club In-Stream Mitigation

Date: 23-Apr-21

In-Stream Work/Channel Restoration or Enhancement and Relocation Worksheet										
Factors	NB 20	NB 21								
Stream Type	0.4	0.4								
Priority Area	0.05	0.05								
Existing Condition	0.4	0.4								
Net Benefit	3.5	3.5								
Control/Site Protection	0.4	0.4								
Mitigation construction										
Timing	0	0								
Sum Factors (M)	4.75	4.75	0	0	0	0	0	0	0	0
Stream length in Reach (LF)	122	103								
Credits (C) = M x LF	579.5	489.25	0	0	0	0	0	0	0	0
Site Factor (SF) pg 19	1	1								
Total Credits Generated C x SF =	579.5	489.25	0	0	0	0	0	0	0	0

Total Channel Restoration/Relocation Credits Generated = 1068.75

In-Stream Work/ Channel Restoration or Enhancement and Relocation Table						
Stream Type	Ephemeral/Intermittent w/o Pools 0.2	Intermittent w/ Pools 0.4	Perennial Stream Avg. Width at OHWM			
			<15' 0.4	15'-30' 0.6	30'-50' 0.8	>50' 1.0
Priority Area	Tertiary 0.05	Secondary 0.2	Primary 0.4			
Existing Condition	Not Applicable 0	Functionally Impaired 0.4	Moderately Functional 0.05			
Net Benefit	Minimal 1.0	Moderate 2.0	Substantial 3.5			
Control/Site Protection	Corps approved site protection without third party grantee 0.1		Corps approved site protection recorded with third party grantee, or transfer of title to a conservancy 0.4			
Mitigation Construction Timing	Schedule 1 0.3	Schedule 2 0.1	Schedule 3 0			

KSMG RESTORATIONS WORKSHEET

Date: 23-Apr-21

Adverse Impact Factors for Riverine Systems Worksheet										
Factor	SRA 1	SRA 2	SRA 3	SRA 4	SRA 5	SRA 6 MC	SRA 6 GF	SRA 7 MC	SRA8 MC	SRA 8 GF
Stream Type Impacted	0.8	0.8	0.6	0.8	0.8	0.6	0.6	0.6	0.6	0.6
Stream Status	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Exisiting Condition Value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Formula total	0.08	0.08	0.06	0.08	0.08	0.06	0.06	0.06	0.06	0.06
Duration	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Activity	0.5	0.5	0.5	0.5	0.5	1.5	2.5	1.5	1.5	2.5
Cumulative impact	0.0702	0.0426	0.1239	0.0819	0.0264	0.1086	0.012	0.0771	0.0321	0.0012
Sum of Factors = M	1.8502	1.8226	1.6839	1.8619	1.8064	2.6686	3.572	2.6371	2.5921	3.5612
Linear Feet of Stream Impacted = LF	234	142	413	273	88	362	40	257	107	4
M x LF	432.95	258.81	695.45	508.30	158.96	966.03	142.88	677.73	277.35	14.24

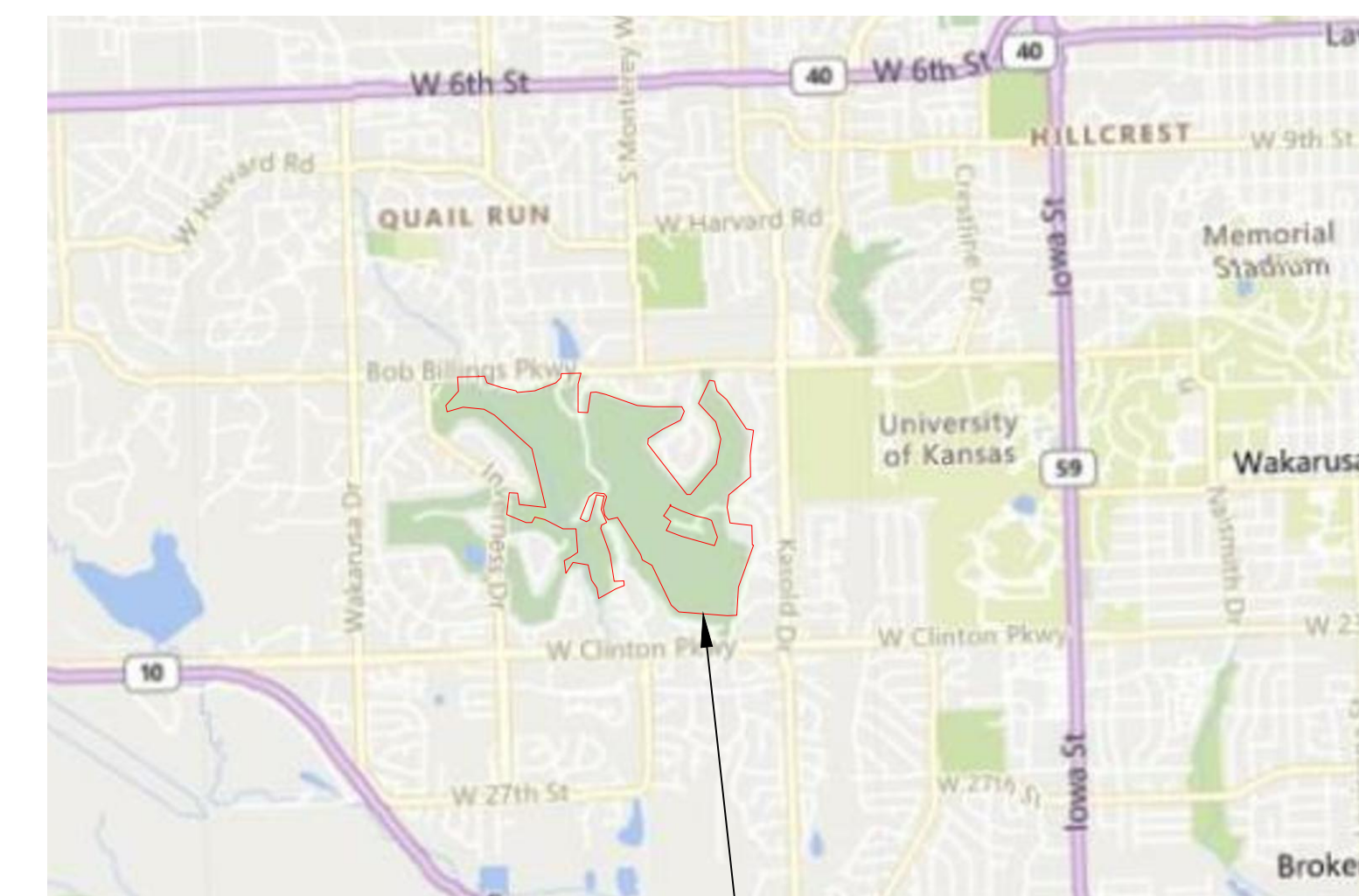
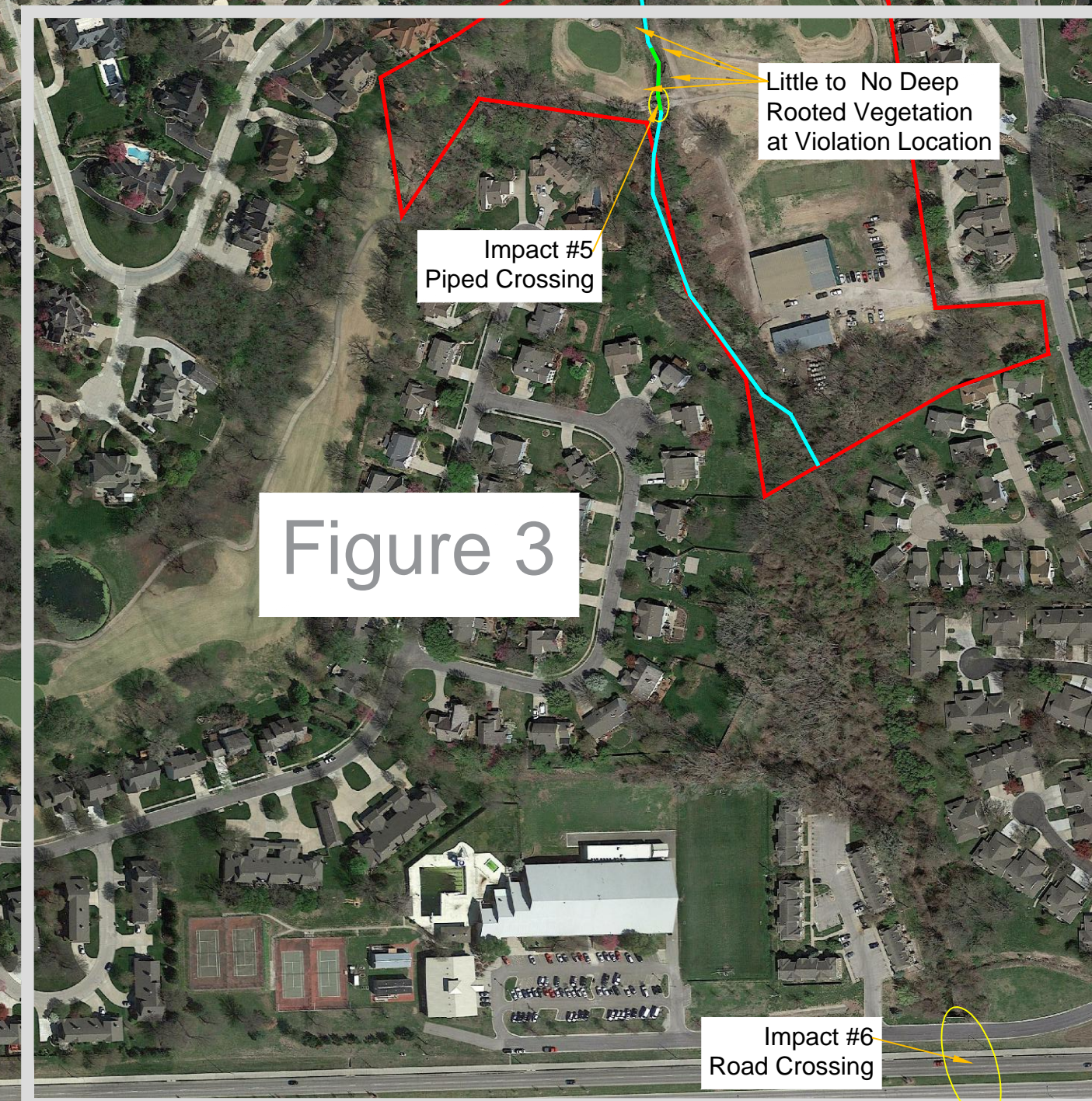
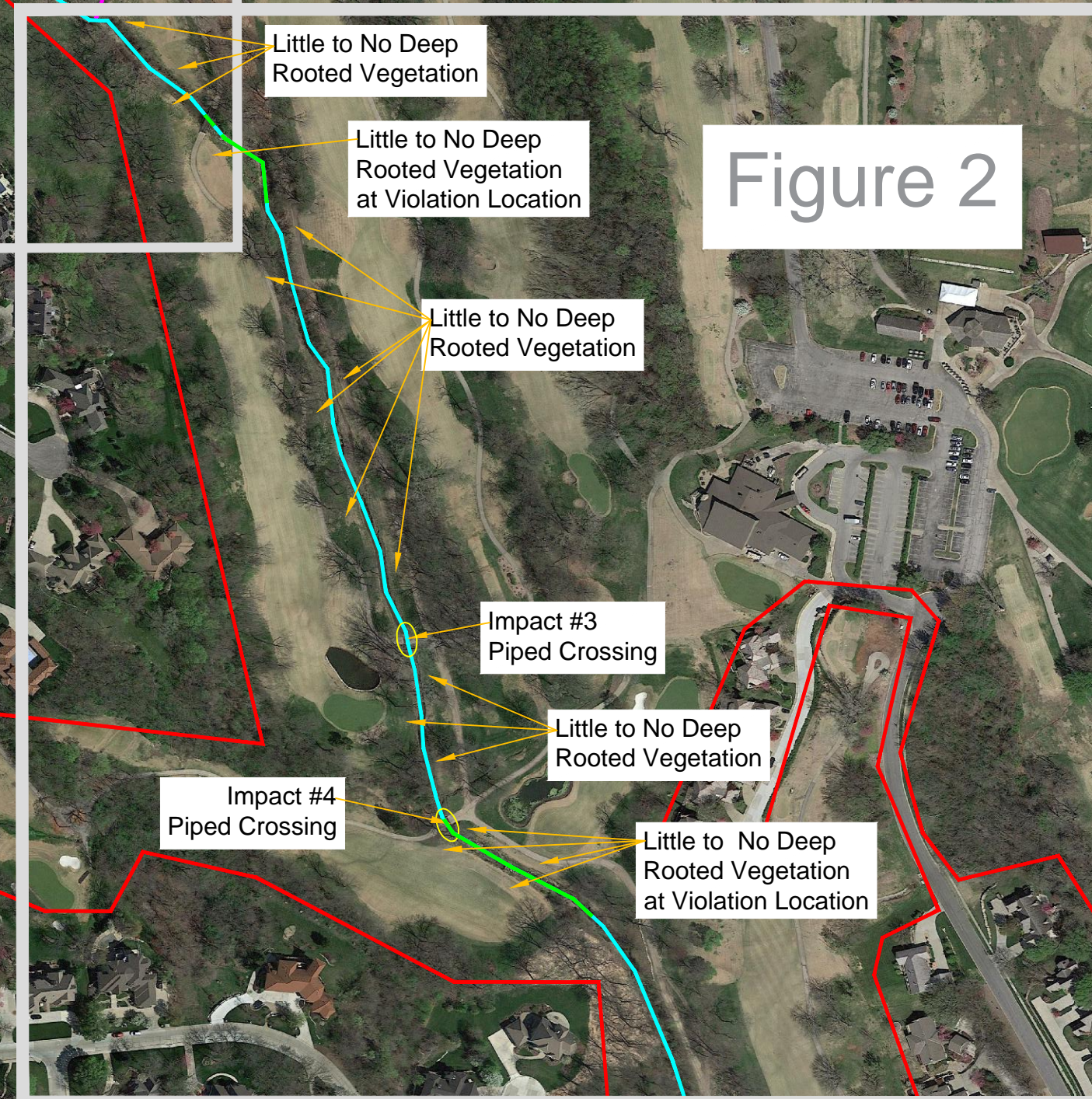
Adverse Impact Factors for Riverine Systems Worksheet										
Factor	SRA 9	SRA 10 MC	SRA 10 GF	SRA 11 PF	SRA 12 PF					
Stream Type Impacted	0.6	0.6	0.6	0.6	0.6					
Stream Status	0.1	0.1	0.1	0.1	0.1					
Exisiting Condition Value	0.1	0.1	0.1	0.1	0.1					
Formula total	0.06	0.06	0.06	0.06	0.06	0	0	0	0	0
Duration	0.3	0.3	0.3	0.3	0.3					
Activity	0.5	1.5	2.5	2.2	2.2					
Cumulative impact	0.0519	0.1143	0.0291	0.0168	0.0183	0	0	0	0	0
Sum of Factors = M	1.6119	2.6743	3.5891	3.2768	3.2783	0	0	0	0	0
Linear Feet of Stream Impacted = LF	173	381	97	56	61					
M x LF	278.86	1018.91	348.14	183.50	199.98	0.00	0.00	0.00	0.00	0.00

Total Mitigation Credits Required =

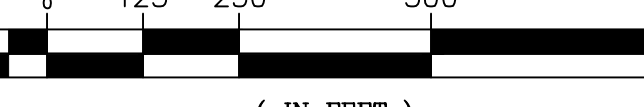
6162.10

Adverse Impact Factors Table										
Stream Type	Ephemeral/Intermittent w/o Pools 0.4			Intermittent w/ Pools 0.6			Perennial 0.8			
Stream Status	Tertiary 0.1			Secondary 0.4			Primary 0.8			
Existing Condition	Functionally Impaired Stream Type x 0.1			Moderately Functional Stream Type x 0.8			Highly Functional Stream Type x 5.0			
Duration	Temporary (<1 yr.) 0.05			Short Term (1-2 yr.) 0.1			Permanent (>2 yr.) 0.3			
Impact Activity	Shade/ Clear 0.05	Utility Crossing 0.15	Below Grade Culvert 0.3	Temporary Inundation Zone 0.4	Armor 0.5	Diversion/ Weir 0.75	Morphologic 1.5	Impound 2	Pipe 2.2	Fill 2.5
Cumulative Impact	0.0003 x total linear feet of stream impacted per reach									


STREAM #1
FUNCTIONALLY
IMPAIRED FIGURES

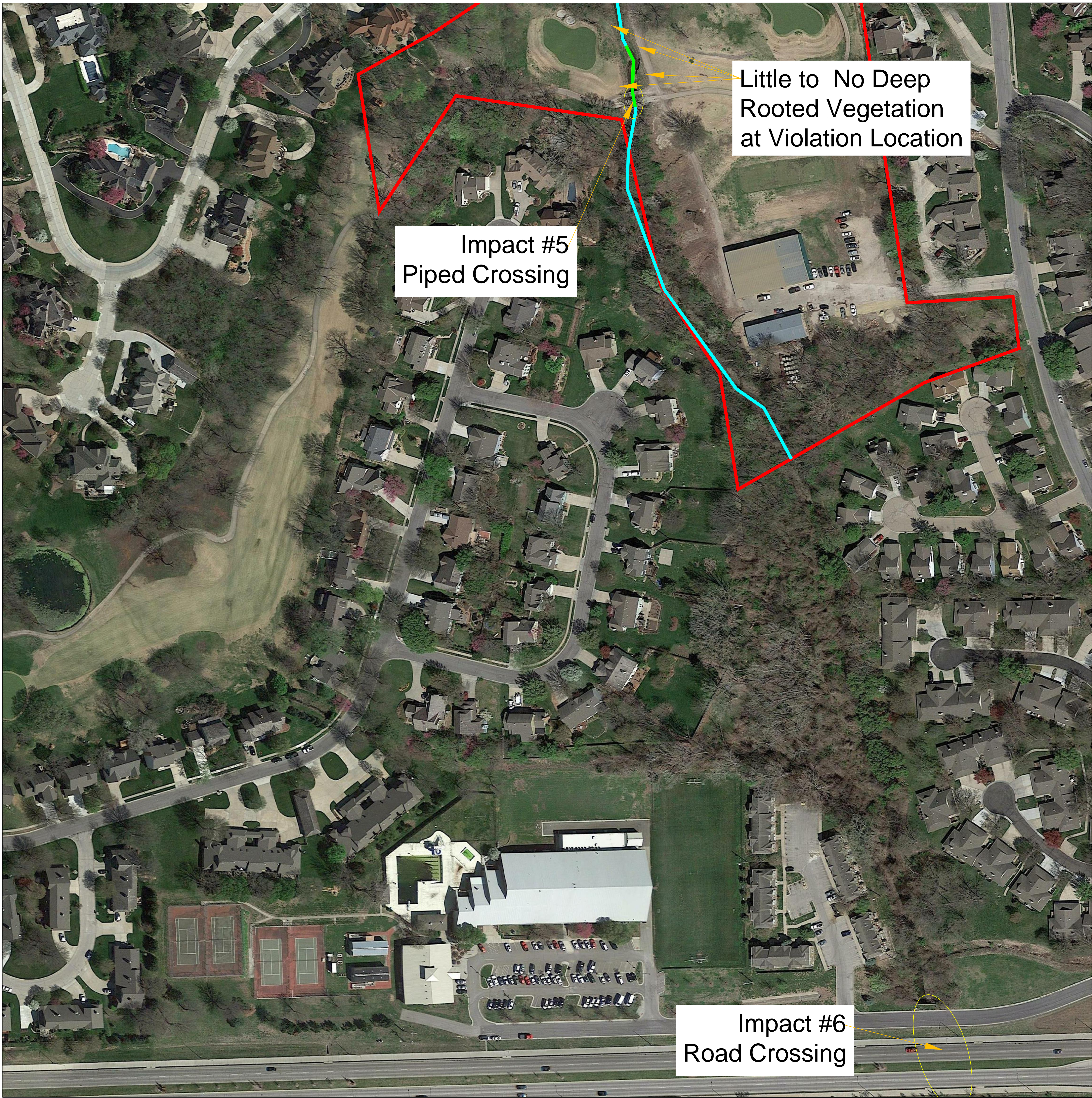


Site Location
T13S-R19E-S3 & S4
Lawrence, Douglas County, Kansas
274.07 Acres
Lat. 38.95287
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GRAPHIC SCALE



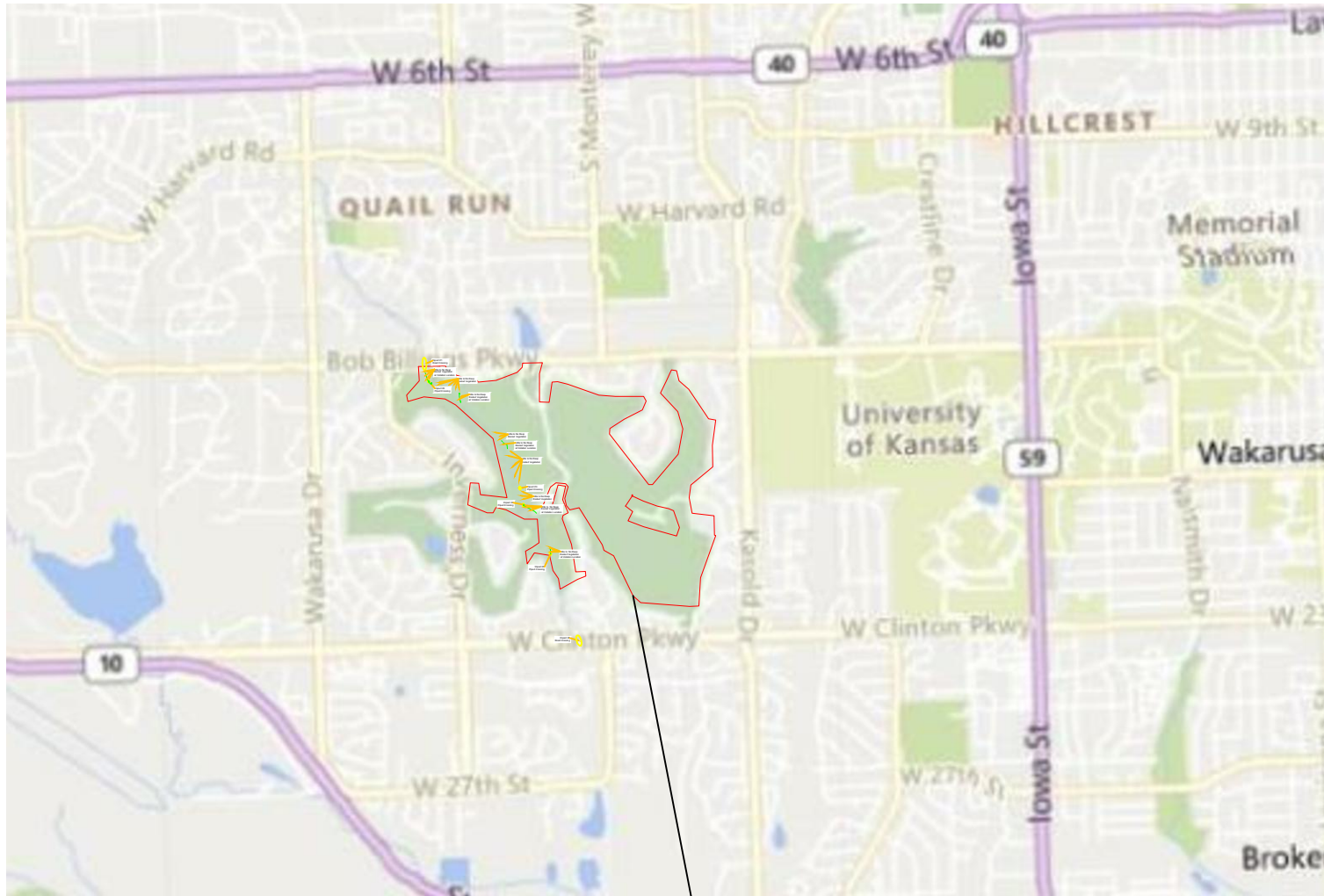
(IN FEET)
1 inch = 250 ft.

 Terra Technologies 6240 W. 135th St., Ste. 100 Overland Park, Kansas 66223 Tel 913.385.9560 Fax 913.385.5295	
OVERVIEW	
SHEET TITLE	STREAM #1 FUNCTIONALLY IMPAIRED (2016 AERIAL)
PROJECT	THE JAYHAWK CLUB
CLIENT	MR. THOMAS FRITZEL
REVISIONS	
DATE	DESCRIPTION
DATE	XX/XX/17
CHECKED BY DLF	DRAWN BY DTD
SHEET NO.	JA
JOB NO.	XXX



JURISDICTIONAL IMPACTS ASSESSMENT											
Location	General Fill		Pipe Fill		Morphological Change		Armor Fill		Bank Armoring		Non Jurisdictional Activity/Mitigation Not Required
	Length (ft)	Width (ft)	Length (ft)	Width (ft)	Length (ft)	Width (ft)	Length (ft)	Width (ft)	Length (ft)	Width (ft)	
1							234	10			
2											20 Ft Pipe Replacement
3							413	5			20 Ft Pipe Replacement
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7											
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12									88	10	
13											18 FT Pipe Replacement
14							10	6			No Pipe Replacement
15							33	6			40 Ft Pipe Replacement
16			24								45 Ft Pipe Replacement
17											
18	96	6			371	6					122 FT Pipe Replacement
19			56								
20											103 Ft Pipe Replacement
21			61								
22	361	3			330	3					
23	4	3			107	3					
24			32								
25											No Pipe Replacement
26											
27	34	6			138	3	185	3			
28											13 Ft Pipe Replacement
29			15				24	6			
30			27								
31	40	6			362	6					No Pipe Replacement
32											
Total Streams:	1472		534		1733		1041		361		
Total Stream Impacts:		5141									
33		0.44									
34		0.52									
Total Wetlands:		0.96									

* No activity occurs within the stream so no length given



Site Location
T13S-R19E-S3 & S4
Lawrence, Douglas County, Kansas
274.07 Acres
Lat. 38.95287
Long. -95.29203
GRAPHIC SCALE
80 0 40 80 160 320
(IN FEET)
1 inch = 80 ft.

Terra Technologies

6240 W. 135th St., Ste. 100
Overland Park, Kansas
66223
Tel 913.385.9560 Fax 913.385.5295

FIGURE 4e

SHEET TITLE		JURISDICTIONAL IMPACTS ASSESSMENT	
PROJECT		THE JAYHAWK CLUB	
CLIENT		MR. THOMAS FRITZEL	
REVISIONS			
DATE	DESCRIPTION		
DATE	7/29/2020		
CHECKED BY	DRAWN BY		
DTD	SNS		
SHEET NO.			
JIA			
JOB NO.		XXX	

**EXAMPLE
CONSERVATION
EASEMENT**

CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is given this ____ day of _____, 20____, by _____, having an address of _____ ("Grantor") to _____, having an address of _____ ("Grantee").

As used herein, the term "Grantor" shall include any and all heirs, successors, or assigns of the Grantor, and all subsequent owners of the Property (as hereinafter defined), and the term "Grantee" shall include any successor or assignee of Grantee.

WITNESSETH:

WHEREAS, Grantor is the sole owner in fee simple title of certain lands situated in _____ County, Kansas, more particularly described in Exhibit A, attached hereto and incorporated herein ("Property"); and

WHEREAS, Department of the Army (DA) Regulatory Action No. _____ of the U.S. Army Corps of Engineers ("Corps") (hereinafter referred to as the "Regulatory Action") authorizes certain activities which affect waters of the United States; and

WHEREAS, this Regulatory Action requires that Grantor preserve, enhance, restore, or mitigate streams, wetlands or uplands located on the Property; and

WHEREAS, Grantor, in consideration of the authorization of this Regulatory Action to construct and operate the permitted activity, and as an inducement to the authorization of the Regulatory Action, is willing to grant a perpetual Conservation Easement over the Property; and

NOW THEREFORE, in consideration of the above and mutual covenants, terms conditions, and restrictions contained herein, together with other good and valuable consideration, the adequacy and receipt of which is hereby acknowledged, Grantor hereby voluntarily grants and conveys a perpetual Conservation Easement for and in favor of Grantee upon the property, which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

The scope, nature, and character of this Conservation Easement shall be as follows:

1. **Purpose:** The purpose of this Conservation Easement is to retain and maintain land or water areas on the Property in their natural, vegetative, hydrologic, scenic, open, or wooded condition and to retain such areas as suitable habitat for fish, plants, or wildlife. Those wetland or upland areas that are to be restored, enhanced, created, or preserved on the Property shall be retained and maintained in the restored, enhanced, created, or preserved condition as described in the Regulatory Action and/or in the associated compensatory mitigation plan for the Property.

2. **Rights of Grantee:** The following rights are conveyed to the Grantee and to the Corps by this easement:

- a. The right to take action to preserve and protect the environmental value of the Property; and
- b. The right to prevent any activity on or use of the Property that is inconsistent with the purpose of this Conservation Easement, and to require the restoration of areas or features of the Property that may be damaged by any inconsistent activity or use;
- c. The right to enter upon and inspect the Property in a reasonable manner and at reasonable times to determine if Grantor is complying with the covenants and prohibitions contained in this Conservation Easement; and
- d. The right to proceed at law or in equity to enforce the provisions of this Conservation Easement, and to prevent the occurrence of any of the prohibited activities hereinafter set forth.

3. **Prohibited Uses:** Except for restoration, creation, enhancement, preservation, maintenance, and monitoring activities, or surface water management improvements, required by the Regulatory Action, or required by the compensatory mitigation plan, or are otherwise approved by the Corps, the following activities are prohibited on the Property:

- a. Construction of any structure or object (i.e., buildings, roads, above or below ground utilities, signs, billboards etc.) without written approval from the Corps of Engineers prior to construction;
- b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;
- c. Removal or destruction of trees, shrubs, or other vegetation, except for the removal of nuisance, exotic, or non-native vegetation in accordance with a maintenance plan approved by Corps;
- d. Planting of nuisance, exotic, or non-native plants as listed by the State of Kansas;
- e. Exploration for, or extraction of, oil or gas in such a manner as to affect the surface, or excavation, dredging, or removal of coal, loam, peat, gravel, soil, rock, or other material substance;
- f. Use of motorized and non-motorized vehicles, the keeping or riding of horses, grazing, livestock confinement, or other surface use that may affect the natural condition of the Property, except for vehicle use for purposes of maintenance and upkeep;

g. Tilling, plowing, planting of crops, digging, mining, or other activities that are or may be detrimental to drainage, flood control, water conservation, water quality, erosion control, soil conservation, or fish and wildlife habitat preservation, including but not limited to ditching, diking, and fencing;

h. The extraction of water from the Property or the impoundment of water on the Property so as to affect the hydrology of the Property;

i. Acts or uses detrimental to the aforementioned retention and maintenance of land or water areas;

j. Acts or uses detrimental to the preservation of the structural integrity or physical appearance of sites or properties of historical, architectural, archaeological, or cultural significance.

4. **Reserved Rights:** Grantor reserves all rights as owner of the Property, including the right to engage in uses of the Property that are not prohibited herein, and that are not inconsistent with the intent and purposes of this Conservation Easement.

5. **Taxes:** Grantor shall pay any and all applicable real property taxes and assessments levied by competent taxing authority on the Property.

6. **Maintenance:** Grantor shall, at Grantor's sole expense, operate, maintain and keep up the Property consistent with the purpose of this Conservation Easement. Grantor shall remove from the Property any nuisance, exotic, or non-native plants as listed by the State of Kansas and shall maintain the hydrology of the Property as it currently exists or as otherwise required by the Regulatory Action or as required by the compensatory mitigation plan or as required by the Corps approved final mitigation banking instrument.

7. **Hazardous Waste:** Grantor covenants that if any hazardous substances or toxic waste exist or has been generated, treated, stored, used, disposed of, or deposited in or on the Property, or there are or have been any underground storage tanks on the Property, Grantor shall be responsible for any and all necessary costs of remediation.

8. **Public Access:** No right of access by the general public to any portion of the Property is conveyed by this Conservation Easement, and Grantor further covenants not to hold any portion of the Property open to general use by the public except with the written permission of the Corps [and Grantee].

9. **Liability:** Grantor shall continue to retain all liability for any injury or damage to the person or property of third parties that may occur on the Property arising from ownership of the Property. Neither Grantor, nor any person claiming by or through Grantor, shall hold Grantee liable for any damage or injury that may occur on the Property.

10. **Recording Requirements:** Grantor must record this Conservation Easement in the official records of _____ County, Kansas, and shall re-record it at any time Grantee or

the Corps may require to preserve their rights. Grantor shall pay all recording costs, fees and taxes necessary at any time to record this Conservation Easement in the public records. Grantor shall thereafter insert the terms and restrictions of this Conservation Easement in any subsequent deed or other legal instrument by which Grantor divests himself/herself/itself of any interest in the Property, and shall provide a photocopy of the recorded Conservation Easement to the new owner(s).

11. Enforcement: The terms and conditions of this Conservation Easement may be enforced in an action at law or equity by the Grantee or the Corps against the Grantor violating or attempting to violate these Restrictions. Venue for any such action shall be in _____ County, Kansas. Enforcement of this Conservation Easement shall be at the reasonable discretion of the Grantee or the Corps, and any forbearance on behalf of Grantee or the Corps to exercise its or their rights hereunder in the event of any breach by Grantor shall not be deemed or construed to be a waiver of rights. Any costs incurred in enforcing, judicially or otherwise, the terms, provisions, and restrictions of this Conservation Easement, including without limitation, the costs of suit, and attorney's fees, shall be borne by and recoverable against the non-prevailing party in such proceedings, except that such costs shall not be recoverable against the Corps. In addition, if the Grantee or the Corps shall prevail in an enforcement action, such party shall also be entitled to recover that party's cost of restoring the land to the natural vegetative and hydrologic condition existing at the time of execution of these Restrictions or to the vegetative and hydrologic condition required by the Regulatory Action and/or as required by the associated compensatory mitigation plan.

12. Assignment of Rights: Grantee shall hold this Conservation Easement exclusively for conservation purposes. Grantee will not assign its rights and obligations under this Conservation Easement, except to another legal entity qualified to hold such interests under applicable state and federal laws and committed to holding this Conservation Easement exclusively for the purposes stated herein. Grantee shall notify the Corps in writing of any intention to reassign this Conservation Easement to a new grantee at least sixty (60) days in advance thereof, and the Corps must accept the assignment in writing. The new grantee shall then deliver a written acceptance to the Corps. The assignment instrument must then be recorded and indexed in the same manner as any other instrument affecting title to real property and a copy of the assignment instrument shall be furnished to the Corps. Failure to comply with the assignment procedure herein stated shall result in invalidity of the assignment. In the event of dissolution of the Grantee or any successor, or failure for 60 days or more to execute the obligations of this Conservation Easement, the Grantee shall transfer this Conservation Easement to a qualified and willing grantee. Upon failure of the Grantee or any successor to so transfer the Conservation Easement, the Corps shall have the right to sue to force such an assignment to a grantee to be identified by the Court.

13. Successors: The covenants, terms, conditions, and restrictions of this Conservation Easement shall be binding upon, and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors, and assigns, and shall continue as a servitude running in perpetuity with the Property.

14. **Notices:** All notices, consents, approvals, or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.

15. **Severability:** If any provision of this Conservation Easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this Conservation Easement shall not be affected thereby, as long as the purpose of the Conservation Easement is preserved.

16. **Alteration or Revocation:** This Conservation Easement, granted in perpetuity, may be amended, altered, released, canceled, or revoked only by written agreement between the parties hereto or their heirs, assigns, or successors in interest, which shall be filed in the public records of _____ County, Kansas. No action shall be taken, however, without advance written approval thereof by the Corps. Corps approval shall be by letter attached as an exhibit to the document amending, altering, canceling, or revoking the Conservation Easement, and said letter shall be informal and shall not require notarization. It is understood and agreed that Corps approval requires a minimum of sixty (60) days written notice, and that the Corps may require substitute or additional mitigation, a separate conservation easement or alternate deed restrictions, or other requirements as a condition of approval. Any amendment, alteration, release, cancellation, or revocation together with written Corps approval thereof shall then be filed in the public records of _____ County, Kansas, within 30 days thereafter.

17. **Controlling Law:** The interpretation and performance of this Conservation Easement shall be governed by the laws of the State of Kansas.

GRANTOR FURTHER COVENANTS that Grantor is lawfully seised of said Property in fee simple; that the Property is free and clear of all encumbrances that are inconsistent with the terms of this Conservation Easement and that no mortgages or other liens exist; that Grantor has good right and lawful authority to convey this Conservation Easement, and that it hereby fully warrants and defends the title to the Conservation Easement hereby conveyed against the lawful claims of all persons whomsoever.

If the grantee named herein is, for any reason, determined not to be authorized or entitled to hold the interest granted herein, the Grantor shall within 60 days after notification thereof execute a substitute conservation easement to a new grantee containing terms and conditions similar to this conservation easement. The determination of lack of authority or entitlement may be made by either (a) a court of competent jurisdiction, (b) the precedential authority of a ruling by a court of competent jurisdiction, (c) a title insurance company's written refusal to insure the real property interest of the grantee named herein, or (d) a title opinion issued by an attorney at law licensed in the State of Kansas. Notification of lack of authority or entitlement of the grantee named herein may be made to the grantor by any person, including persons not privy to this easement. The substitute grantee shall be properly qualified as a "holder" under the Kansas conservation easement law, Kansas St. 58-3810 et seq. or successor statute.

TO HAVE AND TO HOLD, the Grantor covenants that he, she, or they are vested with good title to the easement area and will warrant and defend the same on behalf of the Grantee against all claims and demands. The Grantor covenants to comply with the terms and conditions enumerated in this document for the use of the easement area and adjacent lands for access, and to refrain from any activity not specifically allowed or that is inconsistent with the purposes of this easement deed. The covenants, terms, conditions, restrictions, and purpose imposed with this Conservation Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

Dated this _____ day of _____, 20____

Grantor(s): _____
Print Name

Signature

Print Name

Signature

ACKNOWLEDGEMENT

STATE OF KANSAS

COUNTY OF _____

On this ____ day of _____ in the year 20____, before me, the undersigned notary public, personally appeared _____, known to me to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged that he/she/they executed the same for the purposes therein contained. In witness whereof, I hereunto set my hand and official seal.

Notary Public

Residing at _____

My Commission
Expires _____

ACCEPTANCE BY GRANTEE:

I _____ (print name), _____ (title), being the duly authorized representative of the Grantee, do hereby accept this Conservation Easement Deed with respect to the rights and duties of the, Grantee.

Dated this _____ day of _____, 20____.

Signature

Title